Index to Contents, March, 1941

(The Annual Index to Contents appears at the back of the December issue each year)

Beautification
An Iris-Bordered Boulevard ... 57
Beauty Pays American Cities ... 61

Buildings, Public
Unusually Complete Municipal Building ... 85

Business Machines
Mimeograph It ... 7
City Offices Fit for the Public ... 7
New Electrified Machine for Accounting ... 121
Photocopying Machine in Improved Model ... 121

Civic and Commercial Organizations
Community Needs and National Defense ... 5
A Citizen Looks at Rochester in 1941 ... 83

Conventions
Inter-American Congress of Municipalities ... 64
When and Where ... 113

Defense
Community Needs and National Defense ... 5
Policemen, Firemen, and the Draft ... 37
Conference of Mayors Studies Defense ... 45
Chart of Proposed Municipal Plan for Air-Raid and Other Protection ... 56
In Time of War Prepare for Peace ... 60
Meetings of Anti-Democratic Groups ... 77
Petroleum Industry Can Meet Municipal as Well as Civilian Needs ... 81
Defense Council ... 87

Finance and Taxation
Local Taxes and HOLC ... 44
Finance Officers Conference to Feature Louisville Award ... 55
Assessments for Street Reconstruction ... 73
Housing Development Raises Tax Income ... 79
Municipal Bond Market ... 91

Fire Prevention and Control
Planned Buying of Apparatus and Hose ... 15
Trailer Fire Engine of 100 to 750 GPM ... 15
Policemen, Firemen, and the Draft ... 37

Forward Steps
Items by Officials and Others ... 83

Government and Administration
Community Needs and National Defense ... 5
Chart of Proposed Municipal Plan for Air-Raid and Other Protection ... 56
Inter-American Congress of Municipalities ... 64
Meetings of Anti-Democratic Groups ... 77
Laborers on Annual Pay Basis ... 91

Housing
Community Needs and National Defense ... 5
Local Taxes and HOLC ... 44
Kamehameha Housing Project, Honolulu ... 49
English Housing Project Planned with Regard to Air-Raid Precautions ... 58
Housing Development Raises Tax Income ... 79
Special Utility Rates for Housing Projects ... 89
How Defense Housing Is Built ... 91

Insurance, Municipal
Seeking Economical Insurance ... 63

Legal Decisions
Zoning and Planning Notes ... 105
Municipal Law Notes and Decisions ... 107

Lighting, Outdoor
The Need for Good Street Lighting ... 99
Sodium Lights a Busy Catskill Corner ... 101
Correct Protective Lighting for Plants ... 103
See Marshalltown at Night ... 103
Reservoir Protection by Floodlighting ... 117
Truck-Mounted Ladder for Servicing Lights ... 123

Motor Equipment
New Storehouse and Garage ... 13
Trailer Fire Engine of 100 to 750 GPM ... 15
Truck-Driven Unit Sands Icy Streets ... 115
Removing Snow from Streets, New York ... 115
Truck-Mounted Ladder for Servicing Lights ... 123
New Garage Body for Large Trucks ... 129

News and Illustrations
Hints for Officials ... 115

Nuisances
Anti-Noise Campaigns in Three Cities ... 89

Parking Meters
75 Cities Report on Parking Meters ... 71
Using Parking-Meter Revenues for Traffic Improvements ... 93

Parks and Recreation
Urban Recreation to Aid National Defense ... 55
An Iris-Bordered Boulevard ... 57

Planning and Zoning
In Time of War Prepare for Peace ... 60
Diverting Major Traffic from Minor Streets ... 69
A Citizen Looks at Rochester in 1941 ... 83
Zoning and Planning Notes ... 105

Police Departments
Policemen, Firemen, and the Draft ... 37

Public Relations
The Complaint Bureau ... 50
Employees Courtesy Club, Memphis, Tenn. ... 52
Local Government is News ... 65
A Citizen Looks at Rochester in 1941 ... 83

Public Utility Rates
Special Utility Rates for Housing Projects ... 89

Publications
New Books and Pamphlets ... 109

Radio
Radio for Transit Trouble ... 59

Reporting, Municipal
Mimeograph It ... 7
Local Government Is News ... 65

Safety
Overhanging Signs Regulated for Safety ... 89

Sewers and Sewage Treatment
Imhoff Tanks and Filters Handling Strong Sewage ... 40
Texas Sewage Plant Has Sludge Aeration ... 43
Protective Coatings for Pipes ... 121
Concrete Repairs by Contracting Firm ... 125
High-Capacity Filters for City Sewage ... 127
Equipment for Cleaning Sewers ... 129

Signs
Overhanging Signs Regulated for Safety ... 89

Street Cleaning and Snow Removal
Reducing Street Litter ... 11
Organization and Salt Fight Winter Hazards ... 11
Circus Soils Streets—Pays for Cleaning ... 11
A Self-Powered Scoop That Handles Snow ... 115
Truck-Driven Unit Sands Icy Streets ... 115
Removing Snow from Streets, New York ... 115

Street Construction and Maintenance
New Storehouse and Garage ... 13
Clay and Cinders Mixed for Track ... 13
An Alleged Cure! ... 13
Peeling Black Top with a Scraper ... 13
Asphaltic Oil Mat Construction, Ashtabula ... 67
Tar Road-Mix Streets Improve with Age ... 69
Assessments for Street Reconstruction ... 73
New Soil-Cement Bureau ... 115
Tandem Rollers for Sheet Pavements ... 125

Swimming Pools
Jacksonville Has Big Modern Pool ... 53
Two-Time Treatment for Bathers' Feet ... 127

Traffic Control and Facilitation
Modern Traffic Signals ... 15
Rest in Peace, Not in Pieces ... 15
Diverting Major Traffic from Minor Streets ... 69
Using Parking-Meter Revenues for Traffic Improvements ... 93
One Taxicab Per 2,000 Population ... 95
Are Your Traffic Signals Modern? ... 97

Transportation
Radio for Transit Trouble ... 59
One Taxicab per 2,000 Population ... 95

Waste Collection and Disposal
Cost Accounting for Efficiency ... 46
What Size Litter Baskets? ... 73
New Garbage Body for Large Trucks ... 129

Water Supply and Water Works
Historical Exhibits by York Water Co. ... 9
Watershed Reforestation Complete ... 9
Low Water Pressure Brings Back-Bill Pay ... 9
Water Sphere, Longmont, Colo. ... 9
A Hilltop Water Works, Fairmont, W. Va. ... 38
Fences and Guards Protect Water Supply ... 42
Anniston Expands Water Works to Supply Fort McClellan ... 54
Getting Around Charity Rates for Water ... 75
Altitude Valves for Water Works ... 117
Reservoir Protection by Floodlighting ... 117
Sterilizing Mains at Rochester, N. Y. ... 119
Protective Coatings for Pipes ... 121
Concrete Repairs by Contracting Firm ... 125

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IN THE MUNICIPAL INDEX AND ATLAS (the annual reference volume of data and condensed catalogs published by the American City Magazine Corporation) readers will find statistical material, and articles on a wide variety of municipal and public works subjects, not published in the monthly issues of the magazine.

See pp. 17, 18, 21, 22, 109, 111 *for catalogs and publications on municipal and civic subjects*

For Index to Advertisements see page 132

PITTSBURGH IMO METERS

More Dollars from your metering pennies

THE efficiency of even the 100% metered system depends upon the efficiency of the meters installed in it. The mere purchase of meters alone is not a guarantee that all the potential advantages of metering will be secured.

The Pittsburgh IMO Meter, through its inherent ability to measure with continued accuracy over the minimum-maximum rates of flow, has set new standards in water meter efficiency. The IMO has gained the reputation as being "the most accurate water meter ever commercially built." Specifications guarantee an accuracy of 98% at 1/4 g.p.m., and 90% at 1/12 g.p.m. That this initial accuracy is sustained accuracy has been proven in thousands of installations and by the most severe breakdown tests.

Pittsburgh IMO Meters Wear In Where Others Wear Out. That is important, because the unique design of the measuring chamber and its semi-floating rotors increases the life of the working parts as compared to conventional meters. The combination of longer, trouble-free life and lower maintenance costs assures "more dollars from metering pennies."

Then, too, the Pittsburgh IMO does much to increase that valuable asset of customer good will through its silent operation. Due to its basic construction, the IMO can never become noisy. This feature alone is greatly appreciated by water works men who have long been troubled by consumer complaints over the annoying "clicking" sound of other meters.

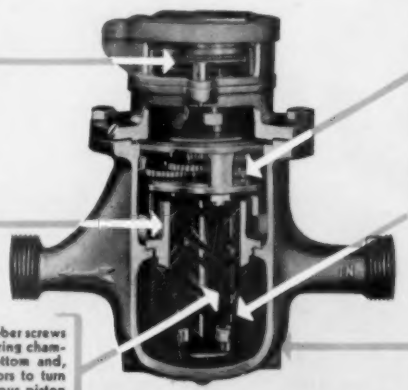
If you want "more dollars from your metering pennies", test the Pittsburgh IMO Meter on your own lines. Ask for a demonstration or write for a copy of Bulletin W-529.

The Inside Story of the Pittsburgh IMO Meter

REGISTER—Nickel-plated throughout, equipped with dust rings, spindles work in hard rubber bushings; all to assure accuracy, long life and low maintenance cost. All registers have the large red center hand for accurate proving and detection of leaks. Both circular and straight reading types, indicating either gallons or cubic feet are available.

MEASURING CHAMBER — The measuring chamber is cast from a special non-corrosive nickel bronze alloy. Machining is held to extremely close limits at this point and the polished interior surfaces provide an ideal confining medium for the hard rubber rotors.

ROTORS—The rotors consist of three vulcanized hard rubber screws which mesh with each other and fit the bore of the measuring chamber. Water enters the measuring chamber from the bottom and, as it is forced upwards by line pressure, causes the rotors to turn from its path. The threads on the rotors act as a continuous piston which always moves in a forward direction. Water is not brought into rotation, but flows smoothly without turbulence or pulsation. The action is perfectly smooth and free from vibration even when operating at maximum flow rate.



Better Materials Are Used In The Pittsburgh IMO Than Are Used In Any Other Meter

ENCLOSED INTERMEDIATE GEAR TRAIN—Extreme care has been exercised to produce a smooth running, long wearing gear train. All spindles operate in hard rubber bushings. All pinions and spindles are made from pure nickel. Gears are of hard, special gear bronze. The gear box is cast from a special non-corrosive bronze, and upper and lower parts are held together by three monel metal screws, making assembly or disassembling a very easy matter.

STRAINER—Made of monel screen, completely encircling measuring chamber, the IMO strainer has more area than any other meter. It should be observed that the IMO will stand up longer than any disc meter, even if the strainer is omitted entirely because the water passes through the measuring chamber without turbulence.

QUICKLY AND EASILY ASSEMBLED—The features described in the other panels explain the major parts which comprise the Pittsburgh IMO Meter. They can be assembled in the exterior case to form the complete meter in a few minutes' time and conversely the meter can be disassembled, while in the line if necessary, just as quickly.

PITTSBURGH EQUITABLE METER COMPANY

MERCO NORDSTROM VALVE CO.

NEW YORK · BUFFALO · PHILADELPHIA · KANSAS CITY · TULSA · LOS ANGELES — *Main Offices* — PITTSBURGH, PA. — DES MOINES · CHICAGO · COLUMBIA · MEMPHIS · OAKLAND · HOUSTON

During March we hope you will remember to mention THE AMERICAN CITY.

Community Needs and National Defense

Housing, Recreation, and Municipal Expansion

THE lease-lend bill debates and other sincere controversies on defense problems have tended to distract public attention from certain obligations as to which patriotic opinion can hardly differ. One of these—an obligation affecting particularly the readers of THE AMERICAN CITY—concerns the provision of adequate housing, recreation, and other community facilities in the cities and towns where defense industries or military or naval establishments are creating exceptional need for expansion of public services.

This problem, obviously, is of direct concern to the Federal Government. But it emphatically is not one which the municipalities can unload wholly and nonchalantly in the harbor of Federal aid. To attempt to fight totalitarianism by concentrating in an OPM or other agency in Washington responsibility for activities which ought to be assumed locally is to drift close to dangerous rocks.

Questionnaire on Housing Needs

To learn the views of Chambers of Commerce throughout the United States as to local needs arising from the defense program, questionnaires were addressed by THE AMERICAN CITY during January and February, 1941, to the leading civic-commercial organization in every city of the United States (except New York and Washington, D. C.) having over 25,000 population according to the 1940 census. Of the 401 cities queried, responses were received up to February 28 from 198 (the answers in a few cases coming from local housing associations, which were also addressed in cities having such bodies).

The first question asked:

For how many families do you estimate that new or improved housing will be needed in your city during 1941, in order that decent living conditions may be available for workers now engaged or to be employed in expanding industries or other defense activities?

Such shortages were indicated in the replies from 103 cities, the aggregate number of new or improved housing units estimated to be needed totaling 130,508. Several others of the replies indicated housing needs which could not be immediately determined.

The second question asked:

To what extent have you assurance that these needs will be met by private enterprise without Federal aid other than that already allotted?

The answers to this question were in many instances non-committal. Of the reasonably definite replies, 31 expressed confidence in the ability of local private enterprise to solve the problem, while 35 indicated definitely the need for Federal aid, 11 of these involving only FHA insurance.

Community Facilities

Question No. 3 asked:

Will industrial expansion and population growth require extension of municipal services such as water supply, sewage disposal, street construction, new schools, recreation facilities, etc.?—If so, which in particular?

This question brought numerous indications of local needs, such as bridges, bus service, fire stations and fire-department personnel, gas and electric plants, highways, hospitals, parking areas, police officers, recreation facilities, refuse collection, schools, sewer systems and sewage-treatment plants, street construction, swimming pools, water-works extension and water-purification plants.

STATUS OF PUBLIC DEFENSE HOUSING CONSTRUCTION, FEBRUARY 15, 1941

	Funds allocated	Contracts awarded	Completed
Number of States and Territories	44	37	16
Number of localities	125	80	13
Number of projects	226	124	14
Number of family dwelling units	68,633	36,936	1,932
Civilian industrial workers	36,352	15,192	636
Other civilians: Employees of Army and Navy	8,683	5,018	724
Married enlisted personnel	23,597	16,731	576

Federal Works Agency

Federal Works Administrator John M. Carmody announced the establishment of defense housing management policies on taxes, tenant selection, and rentals. In accordance with the rulings, FWA will pay annual sums in lieu taxes; eligibility of tenants will be dependent upon their being engaged or about to be engaged in industries essential to the national defense, and rentals in houses occupied by industrial workers will be directly related to incomes of the occupants.

From the February 25 issue of "Defense," weekly official bulletin of the National Defense Advisory Commission

While such local needs should obviously be met, wherever possible, by municipal governments without Federal aid, the fact must be recognized that in many small cities the burdens resulting from abnormal industrial expansion or from nearby cantonments, air depots and naval bases cannot thus be met. This fact is recognized by the administration in Washington, as evidenced by President Roosevelt's message of February 24, asking Congress for $150,000,000 to remain available until expended, for providing housing and community facilities in defense centers where there exists or impends an acute shortage which might impede the progress of the defense program.

Urges Sharing of Responsibility by Municipalities

In this message the President said:

"There have been shortages of housing, insufficient sanitary and health facilities, overcrowding of transportation services and inadequate recreational facilities. In fact, this shortage of essential public facilities has handicapped our re-armament effort in some areas.

"The Government has already embarked on a defense housing program, but that is not enough. We must do more to obtain the most effect from new plants, new houses and, most important, from new workers.

"There is need, in some areas, for improved streets and roads to carry the increased traffic, additional water-supply and sewerage systems to service the new structures, and better health, safety and welfare facilities to benefit the new workers and their families.

"The provision of such community facilities has always been a local responsibility. It still is today; cities generally have been straining to meet the problem. Yet we must face the fact we cannot expect local governments to assume all the risk of financing the entire cost of providing new public facilities for the defense program."

Here is a challenge to local patriotism to do its full share in providing municipal improvements and services, and to supplement these with aid from the Federal treasury wherever exceptional needs and conditions make such aid essential.

For a chart showing "How Defense Housing Is Built" see page 91 of this issue.

The Man WITH THE TRANSIT

First on the scene of any building project is the man with the transit . . . a symbol of progress. And next is usually Layne Engineers, Drillers and Hydrologists, for water supply must precede construction. Layne Well Water Supply Systems serve almost every type of industry, including cities and towns throughout the entire world.

Basically Layne Wells and Pumps are finer. Into their designing has gone features that are exclusive; patented and not duplicated elsewhere. The materials are tougher, stronger, smoother operating and most efficient.

If your water supply is inadequate, or if it is costing too much, Layne Engineers will gladly cooperate on plans for a newer, more modern and better water supply. For new literature showing and explaining the many Layne features, address

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Dept. B, Memphis, Tenn.

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LAYNE-ATLANTIC CO. . . . NORFOLK, VA.
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LAYNE-NORTHERN CO. . MISHAWAKA, IND.
LAYNE-LOUISIANA CO. LAKE CHARLES, LA.
LAYNE-NEW YORK CO. . NEW YORK CITY, AND PITTSBURGH . . . . . PA.
LAYNE-NORTHWEST CO. MILWAUKEE, WIS.
LAYNE-OHIO CO. . . . . COLUMBUS, OHIO
LAYNE-TEXAS CO. . . . . HOUSTON AND DALLAS . . . . . TEXAS
LAYNE-WESTERN CO. . KANSAS CITY, MO. CHICAGO, ILL. . . . . OMAHA, NEBRASKA
LAYNE-WESTERN CO. OF MINNESOTA MINNEAPOLIS . . . . . MINN.
LAYNE-BOWLER NEW ENGLAND COMPANY. BOSTON . . . . . MASSACHUSETTS
INTERNATIONAL WATER SUPPLY, LTD., LONDON . . . . . ONTARIO, CANADA

LAYNE

PUMPS & WELL WATER SYSTEMS

FOR MUNICIPALITIES • INDUSTRIES • RAILROADS • MINES AND IRRIGATION

Our Municipal Notebook

Mimeograph It

CITIES, SMALL CITIES, TOO, are giving increasing thought to the kind of annual reports they issue. Just one year ago the opening article of this magazine gave detailed consideration to this subject in "Talking It Over with the Taxpayers." For that is the ideal and the idea of an annual report. It is prepared for the purpose of obtaining the widest and most thorough reading.

Fascinating data can be so dully presented as to discourage reading; a bit of imagination on the other hand, can get attention for the dullest facts.

The December, 1939, article said: "Expense is one of the obstacles which many cities, the smaller ones particularly, feel prohibits them from issuing an annual report. Many municipalities, however, have proved that larger expense is not a necessity in issuing a report, nor in issuing a good report. The best reports are not necessarily those on which the most money has been spent. Tappahannock, Va., and the borough of West Reading, Pa., have cut expenses by mimeographing their reports."

In fact, the cheaply produced but informative report is likely to make more of a hit than the more elaborate but uninteresting brochure. Best of all, inexpensive duplication makes it possible for the smallest cities to issue reports, and the various departments of any city to make their annual reports available. With a portable Mimeoscope for drawing on stencils, charts and lettering can be included in the report. It is indeed surprising how much costly printing can be avoided by mimeographing forms, specifications, the minutes of budget and other meetings, council proceedings, examination papers, bulletins, notices, programs, instructions to firemen, policemen, traffic officers.

14

CITY-OWNED CARS AND TRUCKS; COST OF
YEAR ENDING

CAR	Dept. Assigned To	GAS	OIL	TIRES	REPAIRS	DEPRECIATION
International	L. & P.	100.19	6.90	.75	5.00	.50
Dodge	L. & P.	208.52	30.64	16.80	10.55	33.64
International	Line	220.58	25.59	5.70	10.60	1.00
Ford	Gas	107.26	9.19	29.05	3.60	.75
Chevrolet	Water	137.48	10.09	.75	9.65	-
[illegible]	Water	108.87	28.77	5.35	10.20	-
Plymouth	Police	367.31	22.60	45.40	18.71	16.00
Ford	Street	150.85	10.23		13.58	1.00
Chevrolet	Street	176.97	8.56	80.87	18.08	7.85
G.M.C.	Street	169.58	10.45	4.05	15.20	20.14
Fluster	Street	154.59	24.60	-	.50	1.50
Sweetaire	Street	136.36	9.73	5.05	8.05	-
Ford	Cemetery	33.94	6.90	-	-	5.04
		2176.46	176.10	201.86	130.97	88.38

A page from the mimeographed annual report of the City Manager of Webster City, Iowa, showing that municipal cost accounting is believed to be of interest to taxpayers

In addition to the considerable amount of this routine copying that is necessary throughout every municipal government, there are the opportunities for making copies for the taxpayer, the citizen, the voter. The administration which engages in a little wholesome publicity of this sort is passing along self-respect as well as engendering it in its people.

City Offices Fit for the Public

"ACROSS THE COUNTER" is the recognized American method of exchange, and some large and attractive metal counters have been installed by The Globe-Wernicke Co., Cincinnati, in the city halls of Tiffin, Ohio, Grand Island, Nebr., Buffalo, N. Y.—and of Hagerstown, Md., shown here. All these modern installations include a systematic arrangement of desks and tables in private offices, of counters in public offices, and of roller shelves and document files in the vaults where city records are preserved. A number of municipal buildings are receiving interior beauty treatments consisting of completely planned and furnished offices. Especially desirable are the modern steel cabinets developed to house special records.

PHOTOGRAPHS BY COURTESY OF THE GLOBE-WERNICKE COMPANY, CINCINNATI, OHIO

More and more cities are recognizing by means of modern accounting and office equipment the need to meet taxpayers on efficient terms, as shown in these views of the newly-equipped public office in the City Hall of Hagerstown, Md.

WELDED STEEL PIPE

Used for Water Supply Intake in LAKE MICHIGAN

THE use of welded steel pipe in solving modern water transmission problems is becoming more and more widespread. An example of the service in which steel pipe is being used is shown above. The sections shown are 30 inches in diameter and are part of a shipment made to Muskegon Heights, Mich., to be used for the water supply intake in Lake Michigan.

It is often desirable to obtain as long lengths of pipe as can be handled conveniently. On the Muskegon intake job two standard 60-ft. sections were welded together in the shop and shipped in 120-ft. lengths. In addition, the high tensile strength of large diameter steel pipe makes it particularly well adapted for high-pressure line service and for large water mains in locations where they are subject to shock, settlement or vibration.

Chicago Bridge & Iron Company is fully equipped to meet your complete requirements for large diameter welded steel pipe. Please call or write our nearest office for information or quotations.

In Circle: Views showing the interior of a 60-ft. section of pipe being coated at our Chicago plant.

Right: Exterior of 60-ft. section being coated with specially-designed pipe coating machine.

Below: View in pipe shop showing sections being welded together to form 60-ft. lengths.

CHICAGO BRIDGE & IRON COMPANY

Chicago	2127 McCormick Bldg.	Philadelphia	1616-1700 Walnut St.	San Francisco	1033 Rialto Bldg.
New York	3308-165 Broadway Bldg.	Boston	1501 Consolidated Gas Bldg.	Houston	918 Richmond Avenue
Cleveland	2236 Builder's Exchange	Birmingham	1502 N. Fiftieth Street	Tulsa	1625 Hunt Bldg.
Detroit	1501 Lafayette Bldg.	Dallas	1606 Praetorian Bldg.	Los Angeles	1403 Wm. Fox Bldg.

* *Plants at* BIRMINGHAM, CHICAGO, and GREENVILLE, PA. *In Canada:* HORTON STEEL WORKS, LIMITED, FORT ERIE, ONT.

Water-Works Operation

Historical Exhibits by York Water Co.

At the Recent Annual Meeting of the Pennsylvania Water Works Association, at Atlantic City, N. J., there was an unusually interesting historical exhibit by The York Water Co., of York, Pa., one of the oldest water companies in the state. Although there were no commercial exhibits at this meeting, member companies were requested to exhibit anything that might be of interest to other members.

The exhibits of The York Water Co. consisted of a section of a wooden water main made from the trunk of a large tree with a 6-inch hole bored in the center and a short piece of iron pipe made by blacksmiths with which the logs were joined together. This style of wooden pipe was in use in York from 1816 to 1840.

A second exhibit was a water gate-valve used on the main streets when the original cast iron mains were laid in 1840. These valves were made in York at that time by Small & Geiger, now Smyser Royer Co., who made most of the original cast iron pipe used in that city. The third exhibit consisted of a root from a maple tree entwined about a water service pipe which in its growing clamped the curb spigot so tightly that it made it useless and also caused the body of the lead pipe to crack. This service pipe was laid in 1916 three feet underground at about the same time the maple tree was planted just below the surface of the sidewalk.

Watershed Reforestation Complete in New Haven

The New Haven Water Co., New Haven, Conn., has completed the planting of 25,000 trees, chiefly white pine and Norway spruce, to replace the plantings destroyed by the 1938 hurricane in the Saltonstall, Maltby and Woodbridge areas of the Eli Whitney Forest. It is estimated that about 25,000 trees, replacements for those affected by disease, drought or fire, will be set out each year on the 22,000 acres of the forest which stretches east, north and west of New Haven, and affords a natural protection for the watersheds and reservoirs of the water-supply system.

For the past 40 years the annual plantings have averaged between 100,000 and 150,000 trees. The sharp reduction in probable future requirements signifies that the forest, with an approximate annual growth of more than 4,000,000 board feet, has become virtually self-sustaining.

Jack pine, oak, ash and poplar were planted this past spring, in addition to white pine and Norway spruce. Evergreens are used principally because they leave a cleaner ground surface than deciduous varieties, with consequent decreased fire hazard and more spacious growing area for young trees.

The transplants, three years old, were grown in the company's nursery at Maltby, established 30 years ago when a Government quarantine halted the importation of young trees from Germany. The seeds are planted in beds covered with slats to prevent too much light from striking the sensitive young trees. In two years, when the trees have grown to a height of 4 to 6 inches, they are placed in transplant beds and set about an inch apart, where they remain for another year or so until needed for planting.

In June the company will begin its annual drive against destructive insects, and preparations are under way to keep fire losses down to a minimum this summer and fall.

Reforestation, attacks on harmful diseases and insects, pruning operations, and close regulation of fire hazards, are all pointed toward obtaining a timber capital in the forest totaling 100 million board feet. With the present capital ranging between 35 and 40 million board feet, it is estimated that the annual cut, which approximates 260,000 board feet, will not be increased for at least six years.

Since cordwood is cut from the tops of those trees harvested for lumber, from short-lived species like gray birch, from dying trees, or from partial cuttings which leave the stand in condition for better growth, no restriction is placed on the cut of cordwood.

Low Water Pressure Brings Back-Bill Pay

The News Letter of the American Public Works Association recently recorded an interesting technique for encouraging the payment of delinquent water bills. The Lakeview, Ore., Water Co., instead of turning off the water completely when the consumer becomes delinquent, simply attaches a device to the water meter which slows the flow down to a mere trickle. The manager of the company reports that after waiting ten minutes to obtain a glass of water, or four days to fill the bathtubs, the delinquents generally are eager to pay their back bills.

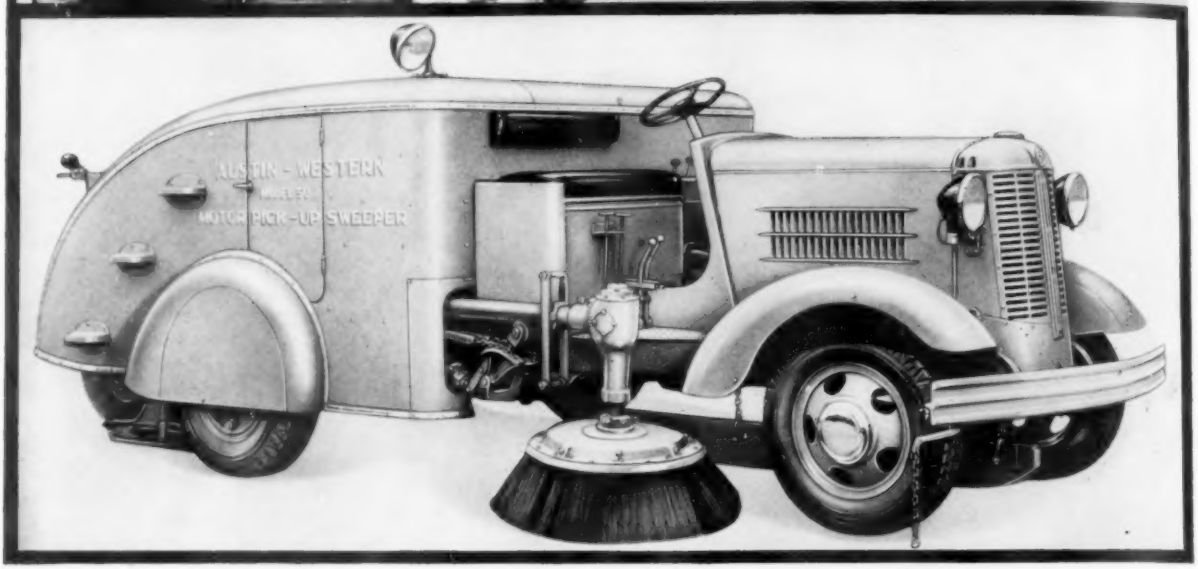
F. S. Fisher, Water Superintendent, writes us further that the device is his own invention — just a 1-inch disc made from galvanized sheet metal with a 1/32-inch hole drilled in the center. It is placed in the meter union with the leather gasket on the outlet side.

PHOTOGRAPH BY DELMAR CURTIS, KALAMAZOO, MICH.

Aerial View of the Elevated Water Sphere Erected by the Chicago Bridge & Iron Co. for the City of Longmont, Colo.

Here's NEW MOTOR SWEEPER Beauty

with TIME-PROVED POSITIVE PICK-UP



● It's the A-W "50". . . a new streamlined model of the time-proved A-W Motor Pick-Up Sweeper. Here's a modern machine—in beautiful 2-tone gray that every city official and citizen can point to with pride . . . both as a handsome piece of street maintenance equipment, and an efficient, money-saving performer. Its positive pick-up mechanism is distinctively efficient . . . handles all materials (large or small, wet or dry), including bricks and broken glass. Even slush, mud and sand go right up into the hopper . . . can't slide or roll back. It cleans nine feet of pavement at a single pass. Gutter broom, rear broom and elevator are controlled by effortless, time-saving hydraulic power. Write for price and specifications. THE AUSTIN-WESTERN ROAD MACHINERY CO., Aurora, Ill.

The A-W PATROL SWEEPER is the ideal machine for smaller cities and for use wherever traffic congestion or narrow streets call for exceptional maneuverability. Over 200 cities and villages are using one or more A-W Patrol Sweepers . . . THE BIGGEST SELLING SMALL SWEEPER ON THE MARKET.

Austin-Western

MOTOR GRADERS
LOADERS
BLADE GRADERS
ELEVATING GRADERS
HYDRAULIC SCRAPERS

CRUSHING AND SCREENING PLANTS
CABLE SCRAPERS
ROLLERS

ROLL-A-PLANES
MOTOR SWEEPERS
BITUMINOUS DISTRIBUTORS
SHOVELS AND CRANES

For Cleaner Streets

Reducing Street Litter by Thought and Care

MANY OF THE MATERIALS which make up street dirt, such as paper, wood, excelsior, rags, leather, cans and other metals, glass, crockery and garbage, appear to have no good excuse for being on the street. If some method of disposal other than throwing or dropping them in the street were universally practiced, the minimum of street dirt would be more nearly approached. Analyses show that in the central part of Newark, N. J., from 53 to 69 per cent of the street sweepings consist of paper. The proportion of paper was less in the residential areas, while in a heavily populated section a sample of street sweepings was 10 per cent garbage. In Philadelphia an analysis of the contents of litter baskets showed that about 86 per cent of the contents is paper. Other analyses revealed, however, that there is still from 8.5 to 14.9 per cent of paper in dirt swept from the streets.

The individual citizen can do much toward reducing to a minimum the amount of street cleaning that a city must do. He can, of course, refrain from throwing things in streets. This is easy where there are litter baskets, of which Philadelphia has 378 at strategic points. In locations where there are no baskets, some self-restraint is required to hold refuse until a proper disposal point is reached. The citizen, too, can put out his refuse for collection, either securely bundled or so covered in containers that it will not spill or blow about. If he is a storekeeper he can collect and properly care for sidewalk and store litter, instead of sweeping it into the street. And those who transport refuse through the streets can see to it that the refuse does not leak, spill or blow away.

—From "Citizens' Business," published by the Bureau of Municipal Research, Philadelphia, Pa.

Organization and Salt Fight Winter Hazards

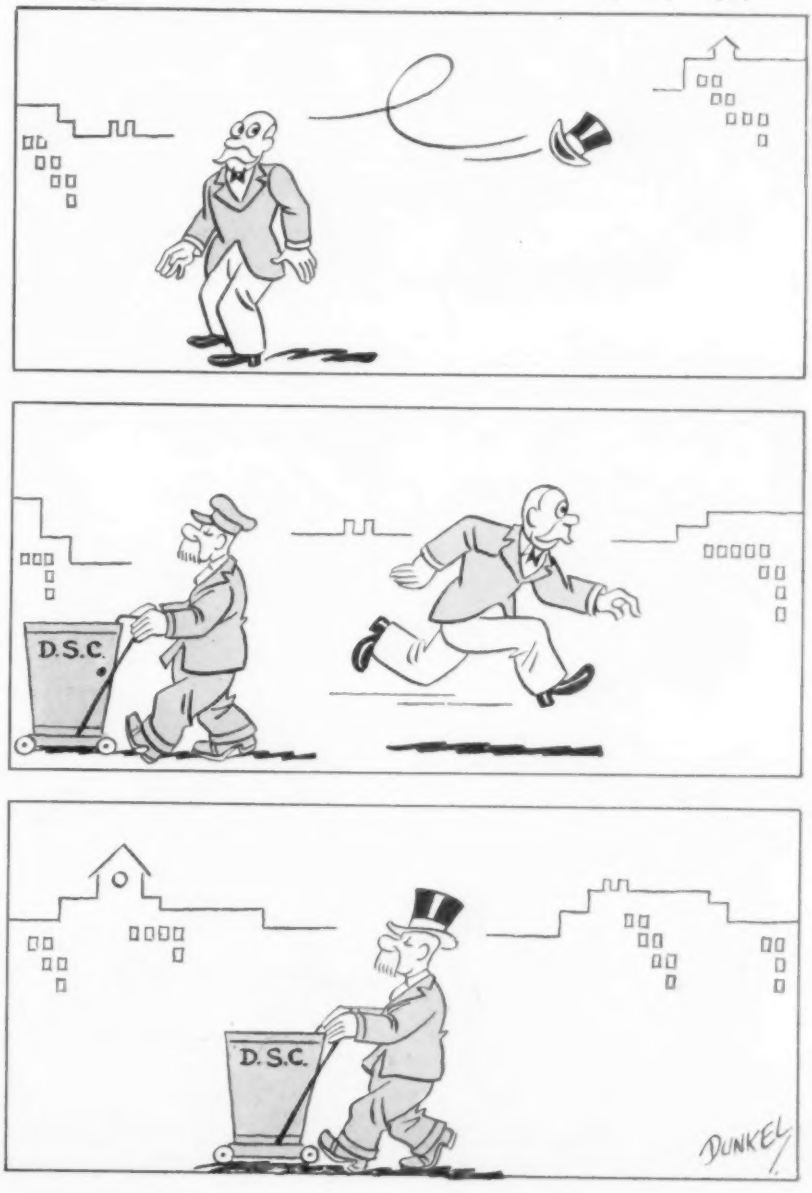
BUFFALO, N. Y., has won an enviable reputation in the last few years for its efficient and speedy method of keeping its streets clear of snow and ice. Mayor Thomas L. Holling herein sets forth in brief the system used in Buffalo:

"We maintain fourteen snow-and-ice stations with telephones in various parts of the city, from which plows are dispatched and men hired under central control from the main garage. A young army of snow shovelers is kept on a 24-hour call, and they report to the snow-and-ice station in their home district. These men augment the regular force and are paid, of course, only for actual working time. We furnish city-owned plows to private truckers who are on call 24 hours a day throughout the winter. We also maintain about 20 snow-plows and spreader units which belong to the city.

"We have built five mechanical spreaders for salt, each unit having 7-ton capacity and able to spread the full width of a street in one operation. To get streets down clear we use salt, then salt and grit. Main arteries, fire lanes and hospital lanes are worked on first in both salting and plowing."

Circus Soils Street—Pays for Cleaning

WHILE YOUNGSTOWN, OHIO, CONSIDERS the business of keeping its streets clean a legitimate function, it does not feel required to clean its streets when a circus gets them muddy, without proper compensation. When the streets were made quite muddy by a visit of Ringling Brothers-Barnum and Bailey circus, the officials sent a bill for $25 (the actual cost of the work) to the circus, and it was paid promptly.



Speed OF OPERATION IS WHAT YOU GET IN THIS MODERN ROAD EQUIPMENT

MAKE MORE REPAIRS IN LESS TIME AT LESS COST

Littleford Model No. 101 Utility Spray Tank using Spray Bar for small application work.

No. 84-HD Kettle with Hand Spray Attachment doing patch work.

Here are the units that have been **engineered** and **designed** to give you the **speed** needed for fast road maintenance work.

Model No. 101 Utility Spray Tank gives three units in one. It has **Spray Bar** for small application jobs, **Hand Spray** for patch work, and **Pouring Pot Outlet** for filling pouring pots for crack filling jobs.

No. 84-HD Kettle—This is the fastest heating kettle ever designed. "Double Heat Circulation" System heats entire kettle faster, while the "Screened Reservoir" keeps old materials from cooling off the already melted materials. Here's where you get speed in heating and speed in drawing off materials.

New Trail-O-Roller rolling a service cut on a city street.

Trail-O-Roller — The New Portable Roller for patch work. Trails behind any truck at any speed. Operator sits to operate the Trail-O-Roller. Hydraulic Lift changes it from rolling to trailing position in 60 seconds.

It's speed we need today—so speed up your maintenance work with units guaranteed to give **speed of operation.**

BLACK TOP ROAD MAINTENANCE EQUIPMENT — LB — SINCE · 1900

LITTLEFORD

LITTLEFORD BROS.

500 E. Pearl St. Cincinnati, Ohio

The Care of City Streets

The Wilmington New City Garage That Did Not Cost the Taxpayers a Penny

New Storehouse and Garage

THE STREET AND SEWER DEPARTMENT OF WILMINGTON, DEL., recently completed the construction of a new 48 x 140-foot brick combined storehouse and garage with a capacity of 16 cars and trucks adjacent to the City Yard. This was financed by the sale of city property at 13th and Orange Streets near the heart of the city.

A well-surfaced concrete floor draining to three separate sumps permits the storage of cars which are wet and muddy or caked with ice. The garage is equipped with four overhead doors in one side, and a swing door on the end. An interesting feature of the construction is a 1¼-inch threshold at each door, with a steel strip in front of it for protection. The overhead door drops immediately in front of this and is braced against heavy winds along the bottom by this threshold, which also acts as a wind-stop and because of the type of tires used on trucks and motor vehicles today, it is scarcely noticed as equipment is run into the garage.

At one end of the garage is a boiler room set off by a concrete block partition and containing an oil-fired boiler which furnishes steam for heating all the City Yard and repair shop across the street. Similarly, a small office is set off and is now used for paying all employees of the Department, instead of the former method of paying them off on the street.

Clay and Cinders Mixed for Track

A COMPOST MIXER was put to unusual service by Wyoming Seminary, Kingston, Pa., to replace portions of a running track on the athletic field which had been washed out by floods in the early summer of 1940. Cinders and clay were fed into a Royer compost mixer from wheelbarrows in the proportion desired, and the thoroughly mixed material was thrown out by the machine and deposited directly on the track for spreading and rolling. The thorough mixing-in of the clay provided a material that packed and bonded readily, leaving a smooth top on the track.

Shooting the Correct Proportions of Clay and Cinders, Thoroughly Mixed, onto the Track at Wyoming Seminary, Kingston, Pa.

Many cities have used these mixers to shred and mix sod, compost, manure and dried sewage sludge, or to mix-in lime, bone meal, ammonia sulphate or other soil-conditioning materials.

An Alleged Cure!

IN DISCUSSING THE MAINTENANCE OF DIRT STREETS in cities at the American Public Works Association Convention during the week of September 30, 1940, someone asked this question: "What is the best treatment for a city engineer to use in earth street maintenance?"

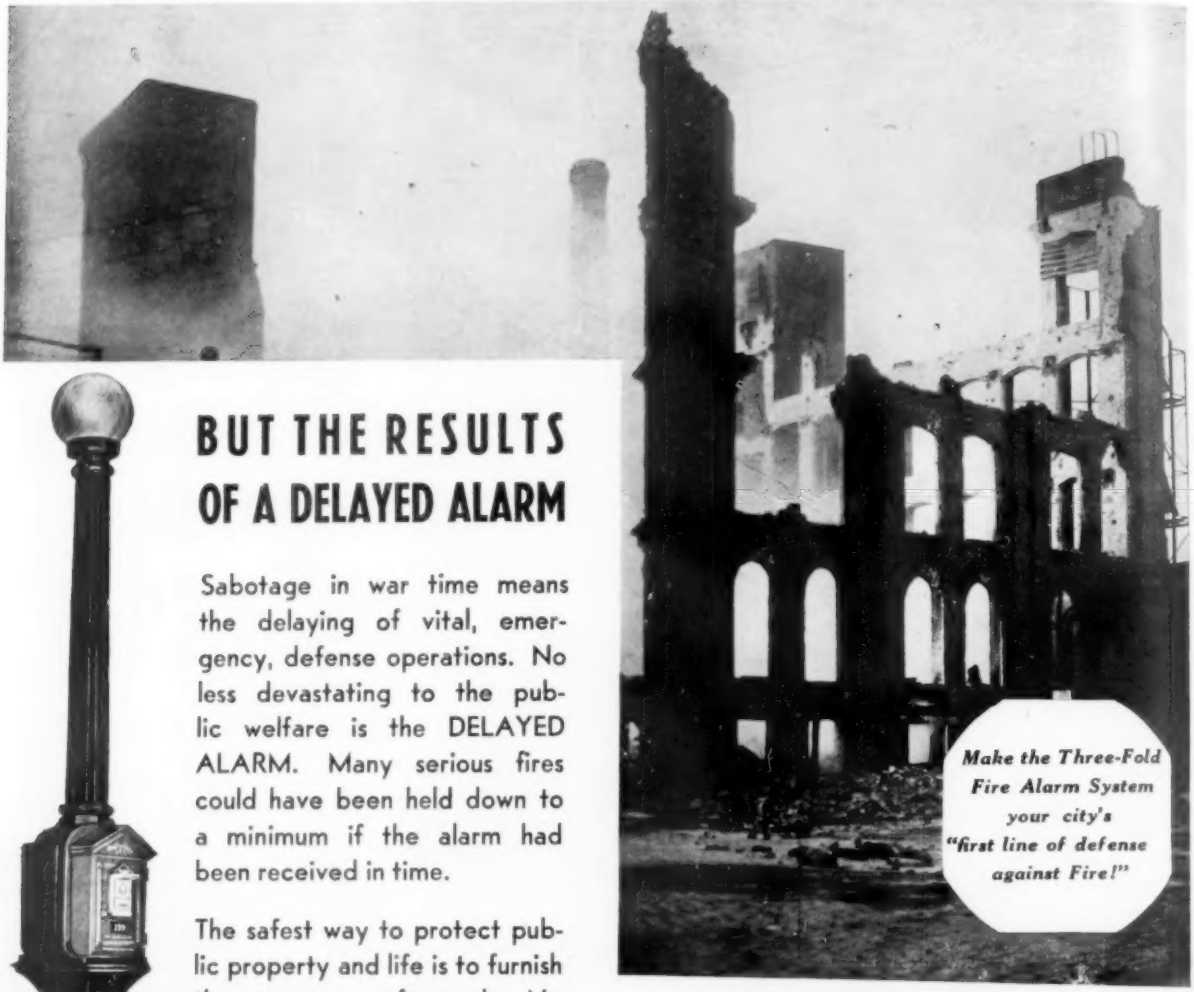
The prompt reply came back from a city engineer: "Aspirin, to relieve the headache they give him."

Peeling Black Top with a Scraper

AN UNUSUAL AND VERY EFFECTIVE USE of a LeTourneau Carryall scraper was made by Bell & Bell, contractors of Nashville, Tenn., at Spring Hill, Tenn., preparatory to widening U. S. 31. It was desired to remove the blacktop surface, so they used their Model G 6.5-yard Carryall behind a D7 tractor, and loaded the black top with comparative ease. This surface material was hauled away and stockpiled along a side street and later brought in for resurfacing after the grade had been built up. One man and one machine were thus able to handle the entire construction and keep the highway unobstructed for continuous traffic.

A 6.5-Yard Carryall Slicing Off a Black Top Surface at Spring Hill, Tenn.

NO—IT'S NOT SABOTAGE!



Three-Fold Fire Alarm Box on Type U1000-6 Pedestal

BUT THE RESULTS OF A DELAYED ALARM

Sabotage in war time means the delaying of vital, emergency, defense operations. No less devastating to the public welfare is the DELAYED ALARM. Many serious fires could have been held down to a minimum if the alarm had been received in time.

The safest way to protect public property and life is to furnish the necessary safeguards. No community can have too many fire boxes.

Check up on the alarm system in your locality and recommend that automatic alarm systems be installed in all schools and public buildings. Gamewell engineers will advise you.

GAMEWELL VITAGUARD
for volunteer departments

A simple and economical fire alarm system consisting of one or two wire loops, street boxes and the DIAPHONE public alarm.
It costs practically nothing to operate and it requires no manual control or winding. Write for interesting examples of what VITAGUARD has accomplished for many towns supporting volunteer departments.

Gamewell manufactures and installs fire alarm and police systems, applicable to every community and industry. We gladly cooperate in planning such protection.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS MASSACHUSETTS

Public Safety

Planned Buying of Apparatus and Hose

THE REPLACEMENT PLAN of the Bridgeport, Conn., Fire Department, instituted in 1936 and carried through for five years, has been mapped out ahead for another five years, including 1945. The 55-foot Mack city service truck installed in April, 1940, will be duplicated in 1941, and a chief's car will be replaced with a new Buick. The Department also has a hose-replacement plan by which all hose is automatically replaced after eight years of service. A sufficient quantity of the various standard brands is being purchased to provide a comparison of durability and efficiency. During 1940, Fabric wax- and gum-treated fire hose was purchased, and there is now on hand 22,000 feet of Fabric hose. This year's purchases are of wax- and gum-treated Photex made by Raybestos-Manhattan Co., and there is now 4,500 feet of this brand in use.

Trailer Fire Engine of 100 to 750 GPM Adapted for Wide Use

THE WELL-KNOWN HALE FIRE PUMPS are not only suitable for auxiliary fire service, but are veterans at this grueling work in the battle of Britain. They are eminently portable, as the two photographs show. The hand-pushed sump model throws a creditable stream through a ½-inch tip and is suitable also for pumping out cellars and manholes and for flushing streets. Weighing only 250 pounds, it can be carried about by two men and, on wheels, by one man. It is driven by a Briggs & Stratton 4-cycle 4-hp single-cylinder gasoline motor which will not freeze or overheat.

The Hale Universal trailer-mounted Ford-drawn pump shown here, can be of 500-, 600- or 750-gpm, driven by an 85-hp V8, a 95-Mercury, or a V12 Lincoln Zephyr motor, respectively. These pumps have passed the National Board of Fire Underwriters' 12-hour endurance test. For incendiary air-raid protection they are mounted on a two-wheel trailer with pneumatic tires, carrying discharge hose, two 10-foot lengths of suction hose, one suction strainer, a 20-gallon gasoline tank, and a storage battery.

The pumps are suitable for fire protection in rural districts, small towns and forests, and also for small fireboats, water-works standby, and general pumping service.

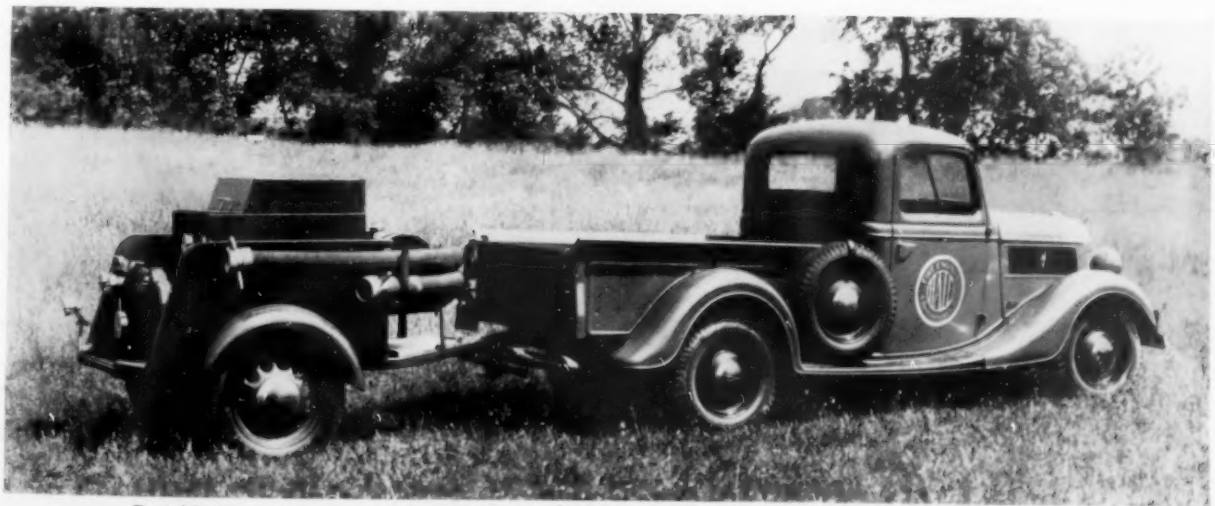
Modern Traffic Signals

THE EARLY TRAFFIC SIGNALS were crude affairs. Modern signals are many times more efficient and capable. An example of such a development is the modern traffic timing control, by means of which it is possible to assign definite periods of time on various streets to be controlled, regulate the hours of the day during which certain periods of time are to be given, change from one type of indication to another, as, for instance, from STOP and GO signals to flashing signals during certain portions of the day.

T. E. TRANSEAU,
Director, State Bureau of Highway Safety, Harrisburg, Pa.

Rest in Peace, Not in Pieces

SLEEPY DRIVERS can be as dangerous as drunken drivers. In either case negligence may result in disaster. The first yawn or drowsy feeling should be regarded as a danger signal on long trips. Talking, singing, chewing-gum, or smoking will aid in keeping one awake, but when a driver begins to feel exhausted, he had better stop before a collision stops him. Driving is a full-time, full-sized job, cautions the Collision Prevention Bureau of the Los Angeles Police Department. A driver cannot expect to fight off sleep and control tons of steel along a narrow highway at the same time. Never drive more than 8 continuous hours out of 24, and *then* stop frequently for 10-minute rest periods.



Portable Pump (above), and Trailer Equipment Made by the Hale Fire Pump Co., Conshohocken, Pa.

If YOUR PROBLEM IS STREET SANITATION See a SPECIALIST

ELGIN 20

ELGIN JUNIOR

REFUSE-GETTER

For over a quarter century, ELGIN has specialized in machinery for meeting street sanitation problems.

To keep your streets clean, there's ELGIN 20,—sweeping a full 9-foot path, with capacity of 2½ cubic yards—and ELGIN Junior—sweeping a path 5½ feet wide, with capacity of 1¼ cubic yards. Positive dirt-loading mechanisms are your assurance of full dirt boxes every time.

For high-class refuse collection, there's the REFUSE-GETTER, with its low loading height, automatic loading mechanism, permanently closed body, attractive appearance.

For economical catch-basin cleaning, there's the ELGIN EDUCTOR which, users report, reduces costs 58%, on the average.

THE ELGIN CORPORATION

501 Fifth Avenue, New York — 100 N. LaSalle Street, Chicago

Vol. LVI, No. 3 The American City March, 1941

Policemen, Firemen, and the Draft

Why Weaken Local Public Safety by Sending Trained Men to Military Camps?

ONE of the most vexing problems facing every American city today arises from the operation of the Selective Service Act. It concerns the drafting of young policemen and firemen. It is difficult to see how the problem could have been avoided. The law properly provides that there shall be no deferment of persons as a class. This is a salutary provision, for it ensures the democratic administration of the Act. Blanket statutory exemptions would open the door to a wild scramble for privilege.

Although the Selective Service System has no authority to exempt policemen and firemen as a class, a considerable amount of discretion is given to the local board. This is made clear by Director C. A. Dykstra in a recent letter to Mayor F. H. La Guardia of New York. Writes Dr. Dykstra:

"The rules and regulations promulgated by the President provide, in substance, that if the local board finds any registrant to be a 'necessary' man in any activity, or in training or preparation therefor, the maintenance of which is necessary to the national health, safety or interest, in the sense that it is useful or productive and contributes to the employment or well-being of the community or the nation, then the local board may place such registrant in a deferred class for such time as it may determine to be a reasonable period for the registrant to be replaced in that activity so that there is no disruption of that useful function."

The drafting of policemen and firemen is thus a matter within the discretion of the local draft boards, who have to determine in each instance whether the individual before them is a "necessary" person within the meaning of the Act and the regulations promulgated for its administration. It is precisely on this point that there has been considerable misunderstanding and confusion.

Cities as Major Military Objectives

The argument advanced in favor of drafting policemen and firemen is that they are strong, healthy and intelligent fellows, uniquely fitted by nature and by training for the rigors of the military camp, and that they are not entitled to a privilege which others, possibly less fit, do not possess. That argument is dangerous because, taken alone, it is absolutely correct.

It overlooks the fact that deferment is sought for the good of the community, not of the individual, and it is blind to the tactics of modern warfare. Today the city is a major military objective. In the case of aerial attack, especially night attack, no degree of preparedness can prevent at least some degree of enemy penetration. Few forces are more vital, few require a higher degree of training and efficiency, than the fire department of a large city. The same is true of the police forces. They are important in maintaining order and normalcy in a ravaged community, just as they are important in coping with fifth column activities.

Our young policemen and firemen in many cities receive a training that is at least comparable to that provided by the army for draftees. In fact, in New York, and doubtless elsewhere, the Army has been asking the Police Department to aid in training men for military police work, and the Navy has requested help from the local Fire Department.

The sheer wastefulness of drafting men trained for police or fire fighting service is apparent when one considers what happens to them when they do enter the service. As Mayor La Guardia pointed out in his 1941 annual message to the City Council of New York: "The first six months of the trainee's time in camp is devoted to the very same kind of training that our recruits get at the police or fire academy; training in discipline is something that our firemen and policemen are getting all of the time. So there is no net gain in training." Or they may get no regular military training, the firemen being assigned to the fire departments of their respective camps, and the policemen becoming M.P.'s. The situation is further aggravated by the fact that when one of these young men is drafted, his successor in the department will also be of draft age, since the men on the civil service eligible lists are well under the maximum age.

This, in brief, is the problem. Blanket exemptions are, THE AMERICAN CITY agrees, undesirable. Selective Service Director Dykstra has gone as far as possible by pointing out that the situation is one in which the local draft boards may properly exercise their discretion with a view to preventing hardship to their communities. Fortunately, most local boards understand the problem. Some do not, and their education to the facts of modern defense is the concern of mayors, city managers, and other public officials in every city in the country.

A Hilltop Water Works Supplies Fairmont, W. Va.

Filtration Plant in Attractive Park Above City Delivers Good Water from Source with Mine Waste

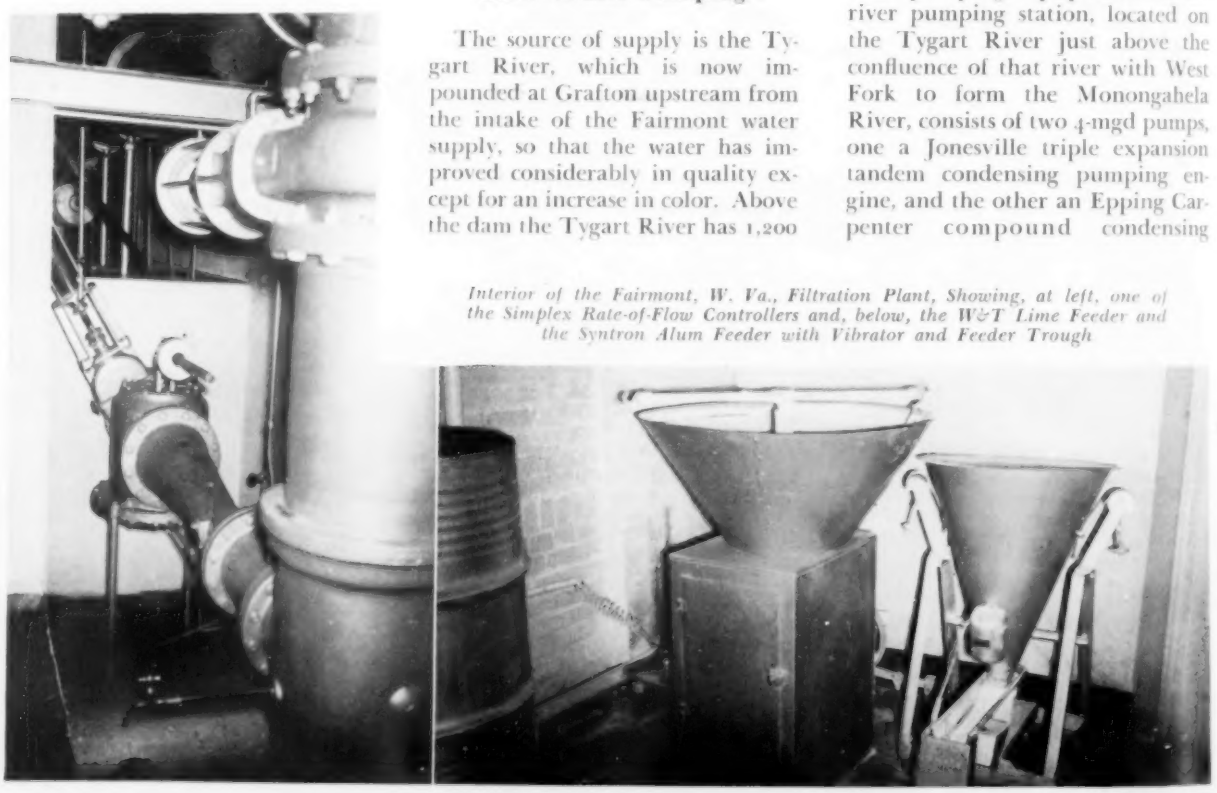
By THEODORE REED KENDALL
Engineering Editor, THE AMERICAN CITY

ON the debit side of the waterworks ledger at Fairmont is a water with these none too attractive characteristics: alkalinity 5 ppm; CO_2 2 ppm; hardness 24 ppm; pH 6.5; color 30; iron 2 to 0.2 ppm; turbidity of 100 in spring to zero in summer and winter; no taste, but a slightly fishy odor. That's not so bad, but listen to this: In 1930 from midsummer through to December 6, the Tygart River ran very low because of the drought and the water had an acidity of 450 ppm and a hardness of 530 ppm, requiring the use of 5,200 pounds of lime in one day, or 13.3 grains per gallon, to neutralize the acidity. The iron was 30 ppm and the iron floc filled the settling basin to within 2 feet of the water surface and great masses of it went over onto the filters and through them, making the water distinctly yellow.

All this happened before Tygart Dam was completed, in 1937, so that must be listed on the credit side, which shows a water delivered to the mains today with these characteristics: alkalinity 13 ppm; phenol alkalinity 3 ppm; CO_2 zero; hardness 32 ppm; pH 8.9; color 0 to 5; turbidity zero; iron zero; and no taste or odor. This is due to careful operation, adjustment of mechanical equipment to feed chemicals more uniformly, and economy in the choice of chemicals.

Raw-Water Pumping

The source of supply is the Tygart River, which is now impounded at Grafton upstream from the intake of the Fairmont water supply, so that the water has improved considerably in quality except for an increase in color. Above the dam the Tygart River has 1,200 square miles of watershed including a large volume of waste from mines, which is the reason for the great reduction in alkalinity and the high acid mentioned at the beginning of this article, during a period of exceptionally low flow in the river. At that time the flow was so low that the intake at the river pumping station was several feet above river level. To supply water to the steam pumps for delivery to the filtration plant, an electric-driven centrifugal pump was mounted on a scow out in the river and delivered water to the suction well of the steam pumps. The pumping equipment at the river pumping station, located on the Tygart River just above the confluence of that river with West Fork to form the Monongahela River, consists of two 4-mgd pumps, one a Jonesville triple expansion tandem condensing pumping engine, and the other an Epping Carpenter compound condensing



Interior of the Fairmont, W. Va., Filtration Plant, Showing, at left, one of the Simplex Rate-of-Flow Controllers and, below, the W&T Lime Feeder and the Syntron Alum Feeder with Vibrator and Feeder Trough

pumping engine. These pumps deliver the water through a 20-inch cast iron line about 1 mile in length and with a lift of 470 feet to a 20-million-gallon open reservoir located on the highest hill in Fairmont and above the filtration plant, so that after the initial pumping to this large reservoir, the water flows by gravity through the treatment processes and then to the city. Considerable leakage has been noted in the large reservoir, so plans have been made to check this by Guniting the inside of the reservoir soon. Inferior concrete in the original construction of the filtration plant and the present clear-water well, which was originally a slow sand filter before the inception of the rapid sand filtration plant, made necessary the Guniting of these structures two years ago to protect them from weathering.

At the reservoir the water falls a minimum of 3 feet into the water surface and is then drawn out for treatment through two 12-inch lines, one about 100 feet distant from the pump discharge line, and the other at the far end of the reservoir about 400 feet distant. A by-pass gate chamber in the raw-water discharge line just before it enters the reservoir permits the by-passing of the water direct from the river pumps to the filtration plant should it be necessary for any reason to take the 20-million-gallon reservoir out of service.

Chemical Treatment

The filtration plant has a nominal capacity of 4 mgd and a maximum capacity of 6 mgd, with the average consumption of the city 2.3 mgd. The two 12-inch lines from the reservoir unite in a 24-inch line which contains a Simplex venturi tube in the basement of the plant for measuring all the incoming water to the plant. The water then rises through a concrete flume where lime, alum and activated carbon are added to the water and it is prechlorinated.

A 15-year-old Wallace & Tiernan dry feed machine with a rotating disc is used to deliver 0.3-grain per gallon of lime to build alkalinity. This machine has been used for only a few months, replacing soda ash, which would not remove the 0.15 to 7.0 ppm of manganese contained in the raw water. The change back to lime was made in June, 1940, and although the lime is not as easy to handle and does increase the hardness of the water slightly, it has effected a considerable saving in chemical costs, since only one-half as much lime is used as soda ash and the total cost is about one-quarter with far better results. Lime is also added at the rate of 0.15-grain per gallon by a Wallace & Tiernan ribbon type dry feed machine located on the filter floor, the lime being delivered to the collecting wells from the filters from which the water flows to the clear-water basins.

Filter alum is added to the water in the same small chemical treatment room as the pre-lime treatment and the carbon, at the rate of 0.6-grain per gallon, using a Syntron vibrating feeder.

Activated carbon is added to the water at the rate of 5 pounds per million gallons by a batch dose. A large drum is mounted over the end of the flume in which all the chemicals are added, and the Nuchar is added slowly to the drum, one coalhodful at a time and slowly stirred into the water. A tangential jet at the bottom of the drum keeps the water moving, and the rate of flow from the drum is determined by the opening of a faucet at the bottom.

William "Bill" Kirchner, chemist in charge, takes a turn at filter wash

Two Wallace & Tiernan sight feed vacuum chlorinators are located on the filter floor, one delivering chlorine to the water at the point of chemical treatment at the rate of 4 pounds per million gallons, and the other post-chlorinating at the collecting wells at the rate of 2.5 pounds per million gallons, giving a residual of 0.2 ppm. A supply of HTH in airtight cans is kept on hand for emergency in the chemical storage room. Adjacent to the chemical storage room is a new room which is being used for the Milk Inspection Department of the city, in which was formerly located the old alum mixing tank and solution feed equipment.

The chemically treated water flows to a 90 x 50-foot settling basin holding 500,000 gallons, with a central longitudinal baffle, so that the water enters over a concrete weir in one end and flows the length of the basin, around the baffle and back the other side, giving a detention period of 3 hours at the present rate of operation. There is little settling of floc in this basin, necessitating cleaning it only twice a year since the unhappy events of 1930.

(Continued on page 79)

Filtration Plant, Wash-Water Tank and Clear-Water Basins of the Fairmont Water Works

Imhoff Tanks and Filters Handling Strong Sewage

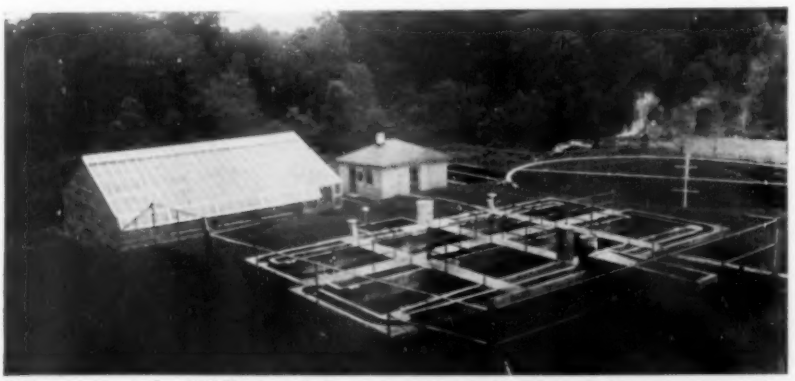
Low Water Consumption at Middletown, Del., Has Strong Domestic Sewage—Corn-Packing Wastes

WITH an average water consumption of less than 30 gallons per capita, the sewage of the 1,500 population of Middletown connected to the sewers is somewhat stronger than usually encountered in residential communities. Although the sewage-treatment plant is only ¾-mile from the center of the town, the sewage has the typical dark-gray appearance of a strong septic sewage when it is discharged at the plant. The condition is aggravated in the corn-packing season by the wastes reaching the plant. These wastes have the same effect on the effluent as cutting out the trickling filter would have with the normal sewage. Under normal conditions, however, the effluent shows remarkable stability, which is a necessity, for it flows into a small stream which enters a lake where there are many recreational activities in summer.

Imhoff Tanks and Filter

Sewage enters the plant through a hand-raked bar screen with 1½-inch openings. The screenings are raked onto a sloping drain and then disposed of on the nearby city dump. The sewage then flows to the outer channel of the 27 x 60-foot pair of Imhoff tanks. Galvanized steel hand sluice-gates in the channel permit reversing the flow in the tanks. As the sewage enters the outer channel, lime is added at the rate of 80 pounds per day during the summer for a flow of about 40,000 gallons per day. Forty pounds of lime are added to a steel drum in the morning and 40 more at night, and a constant flow of water is maintained in the barrel from a cross of pipe with holes drilled in the sides to give some stirring action. This treatment has been very beneficial in the plant but has had practically no effect in changing the pH of the sludge, although it has prevented septic action in the sewage. The pH of the raw sewage and the effluent is 7.5, and of the sludge 7.2. Without the addition of the lime, the pH of the sludge drops to 6.6 and it starts foaming. The two Imhoff tanks are not independent, and have twelve gas vents between them, and it is impossible to isolate one of the tanks to use an experimental treatment in one with the other as a guide.

The Imhoff tank effluent flows to a PFT dosing siphon, the tank of which had an original capacity of 500 gallons, which has been reduced to 400 gallons, thus reducing the period between dosages, by emersing four drums in the tank. This action has been effective in improving the effluent of the trickling filter. The filter is 72 feet in diameter and filled with 6 feet of crushed stone from 2- to 2½-inch screen size, carefully laid out over slotted vitrified tile underdrains. These underdrains open in ports in the outer shell of the filter around about one-third of its circumference. The sewage is distributed over the surface of the filter by a 4-arm PFT rotary distributor.



A Panorama of the Middletown, Del., Sewage-Treatment Plant, Taken from Atop the Extension Ladder Mounted on the Light and Water Department Service Truck

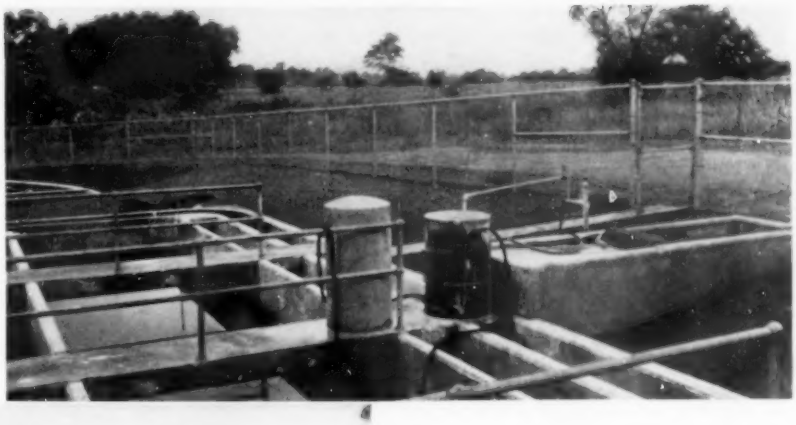
Psychoda Control

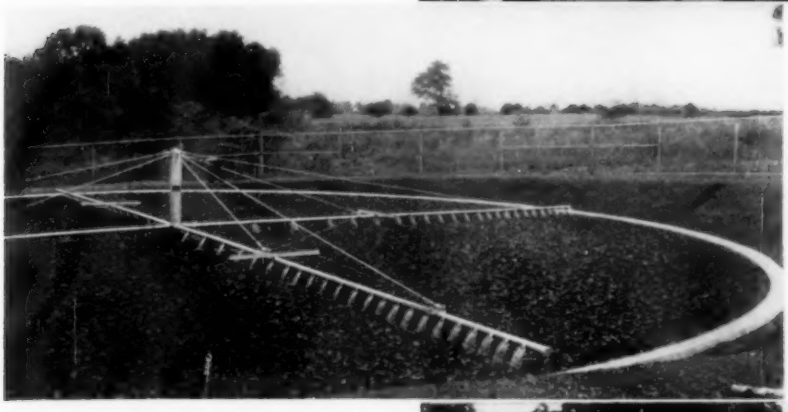
For the first three summers of operation of the plant, which was opened in 1937, filter flies, or Psychoda, infested every inch of the plant, making it most uncomfortable to work about it. Various methods were tried to reduce the numbers, but without success until the summer of 1940. The method which has proved successful is to add 2 pounds of CCH, a hypochlorite containing over 70 per cent available chlorine made by the Mathieson Alkali Works, to the 400-gallon siphon tank for each of three successive dosages of the trickling filter and repeating this once each week. This treatment was started May 15, 1940, and by the middle of August there had been no repetition of the Psychoda nuisance and no damage to the bacteria in the trickling filter.

Secondary Effluent and Chlorination

The effluent from the trickling filter flows to two 10 x 25-foot sec-

ondary settling tanks and is chlorinated with about 8 pounds per day of liquid chlorine controlled by a Wallace & Tiernan volumetric chlorinator. The effluent from the secondary settling tanks flows under a baffle-board and then over a galvanized steel weir, but the original tests showed that this aerated the effluent too much and reduced the residual chlorine. It is now operated with four 1-inch holes about 3 inches below the top of the weir, with still a very slight flow over the top of the weir, but with no break as with a full flowing crest. This effluent flows to a small stream and thence to Silver Lake.





The Progress of Treatment at the Middletown, Del., Sewage Works. Above, the Hand-cleaned Screen, Lime Dosing Unit and Imhoff Tanks; at left, the Trickling Filter; and, below, the Edge of the Filter, the Covered Sludge Beds, the Pump House, and a Corner of the Secondary Settling Tanks

A 16 x 18-foot yellow brick house between the secondary settling tanks and the sludge beds houses the Wallace & Tiernan chlorinator and a Carter sludge pump driven by a 3-hp Westinghouse motor, and contains a toilet.

Sludge Disposal

At about the center of the middle gas slot of the Imhoff tanks a pipe has been placed from the top, running into the sludge compartment, with a pitcher pump at the top for sampling the sludge. This makes it possible to determine the character and depth of sludge very readily. Sludge is drawn from the Imhoff tanks by valves operated by two floor stands on either side of the siphon tank, and the sludge runs by gravity to the glass-covered sludge beds. The secondary sludge is pumped back to the sludge gas vents in the Imhoff tanks after unwatering the secondary settling tanks. When this sludge was pumped directly to the sand beds, it did not dry readily, and when mixed with the Imhoff sludge it simply floated on the top. The best method of disposal found has been to return it to the Imhoff tanks.

There are four underdrained sand sludge beds to which the sludge is delivered through a semicircular flume on the upper side with galvanized steel hand sluices admitting the sludge to the proper bed, where it falls on a concrete splash block. The four sludge beds are completely enclosed with a 45 x 30-foot Lord & Burnham glass cover. In drawing digested sludge from the Imhoff tanks, about 6 feet of sludge is maintained in the hoppers for seeding the freshly settled sludge. Some of the dried sludge is used for building up the humus in the lawns around the plant and adjacent to it, while the greater part is used on a farm.

General Appearance of the Plant

This sewage-treatment plant is located on a main highway running south through Delaware, and is set off on a hillside so that it is very noticeable, especially to northbound traffic. The grounds are well maintained with good lawns, and the structures are painted carefully to present a neat appearance. The concrete work throughout is

excellent, showing no evidence of cracking in its four years of operation, and the yellow brick chlorine and pump-house shows no mortar stains on the yellow brick. A 2-inch Homelite portable pump has been used during dry seasons to water the lawns, pumping the Imhoff tank effluent and at times the secondary tank effluent. Owing to the lack of sufficient length of hose, the extent to which the watering has been carried is very noticeable in the color of the grass and also demonstrates the excellent fertilizing character of the sewage effluent.

The plant was completed in 1937 by George & Lynch, contractors, of Dover, Del., from the designs of Albright & Friel, Inc., consulting engineers, of Philadelphia, Pa. The plant is operated under the direction of C. D. Appleby, Superintendent of the Light and Water Plant of Middletown, Del.

Fences and Guards Protect Water Supply

Connecticut Water Utilities Form Committee for Exchange of Ideas and Materials in Emergencies

DEFENSE measures to protect the water supply of New Haven, Conn., from sabotage which might cripple vital industries or endanger the lives of workers in the city, have been completed by the New Haven Water Co. Protective fences have been erected around reservoirs, dams, and important pipe lines. Seventeen employees have been deputized as State Police to guard gatehouses and pumping stations. Additional valves controlling distribution mains are installed at all street intersections in the city.

Nearly all the New Haven industries manufacturing defense equipment for the United States and Great Britain are dependent on an adequate and safe supply of water for many of their processes, according to New Haven Water Co. engineers, who point out that every precaution must be taken against the stoppage of water service, which would delay and possibly halt the production of armaments. Subversive activity by cranks or fanatics is another danger which calls for extraordinary vigilance during periods of public tension.

A defense committee, composed of representatives of the New Haven Water Co. and of the other private and municipal water utilities in Connecticut, has been formed under the State Police Department for the exchange of information and, in emergencies, exchange of materials. The committee has established a clearing-house through which any utility in immediate need of machinery or equipment may locate duplicate supplies in a neighboring city.

Protection in New Haven

The New Haven system, with 16 reservoirs scattered over an area of more than 25 square miles, would be difficult to interrupt for any length of time. Both the high and city pressure systems are supplied by several different sources which may be used interchangeably. If a large pipe line were blown up, it could be quickly shut off and repaired while other lines served the city.

The water supply for fire hydrants is equally safe. Instead of one valve controlling distribution mains at street intersections where bombs might explode, the Water Company has three valves at each intersection for the sake of safety. Damaged sections of a main can be shut off and cut out without disrupting the water supply for adjacent blocks needed for fire fighting or domestic use. The location of every such valve has been carefully charted, and the information is instantly available for company men or officials of the Police and Fire Departments.

Visiting privileges in pumphouses and water-treatment stations have been curtailed. Permits to hunt on company land have been limited to a few remote areas. In the event of an actual outbreak of trouble, plans have been made for men to patrol every section constantly where interference with distribution might be attempted.

The possibility of pathogenic bacteria or any other harmful substances being introduced into the water supply by foreign agents or fanatics is remote. The reservoirs are carefully guarded, and there is little likelihood that the water could be polluted in sufficient quantities to affect human beings. Before being distributed, all water going into the New Haven system undergoes chemical treatment, which kills harmful bacteria. Samples of the water from each source are tested daily for bacteria in the company laboratory.

Cooperation

Frequent conferences on defense between the public utilities of New Haven, the Police and Health Departments of the city and state, and the Public Utilities Commission, have resulted in plans for close cooperation in times of crisis. An agreement between the Water Company and the United Illuminating Company assures immediate repair of any power lines servicing pumping stations along the water dis-

tribution system. A tie-in with the Bridgeport station of the United Illuminating Company is now being completed to supply New Haven by means of high-tension feeder lines if electric power should fail in New Haven.

Engineers of the New Haven Water Co. believe that probably no other city in the country is in less danger of a shortage of water in an emergency than New Haven. After the last war it was found that the reserve water supply of the rapidly expanding city was limited, and there were few auxiliary lines ready to bring in additional reservoirs in case of heavy draughts. An extensive building program was started, including the construction of the North Branford supply system and the installation of balancing feeder lines to tie-in all the reservoirs.

The result has been an increase in water pressure in the city from 40 to 60 pounds per square inch, and the company now has reserves to meet an increase in consumption of 30 per cent over the present requirements in New Haven.

Reserve Supplies for Increased Consumption

Lake Gaillard, on the northeast side of the city, has a storage capacity of 13,000,000,000 gallons of water, or more than enough to meet the normal requirements of the entire area for a year. Water from this source can be distributed to any part of the system. Lake Saltonstall, also east of the city, contains 1,100,000,000 gallons of water, and, like Lake Gaillard, its main line ties into a feeder system which connects with all the reservoirs of the company.

The three Maltby Lakes, west of the city, have a total capacity of 267,000,000 gallons. Lake Whitney, closest to the business section of New Haven, can supply either the high or city pressure system at a rate of 15,000,000 gallons a day. Lake Wintergreen and the five reservoirs in the Woodbridge area, all lying northwest of the city, have a reserve of more than 1,500,000,000 gallons; and the Prospect reservoir, twelve miles north of the city limits, holds 10,000,000 gallons.

Texas Sewage Plant Has Stage Aeration

New Treatment Plant at Garland Shows Economies in Operation of Small Plant at 100,000 Gallons Daily

By H. B. Gieb
H. B. Gieb & Company,
Consulting Engineers,
Dallas, Texas

THE new sewage-treatment plant recently placed in operation at Garland, Texas, uses diffused air to supply oxygen and to provide agitation which permits the clarification of the sewage by the aerobic bacteria which it normally contains. The principle employed is the progressive arrangement of the various broad groups of aerobic sewage organisms under conditions most favorable for their growth. This arrangement permits the incoming sewage to be acted upon by each group of organisms in succession and without the inhibiting influences of the preceding groups. This specialized environment for the different classes of organisms permits the coagulation and oxidation of the sewage rapidly and with only 1 cubic foot of air at 4.5 pounds pressure per gallon of sewage.

This plant has two rectangular aeration tanks, each of which has a transverse dividing wall which divides each tank into two square compartments. Each compartment has a hopper bottom for sludge collection and sludge draw-off facilities. Sewage enters the aeration tank at the end of one compartment and is directed downward by a vertical baffle-wall. This wall extends from the liquor surface to the bottom of the tank wall. The sewage thus flows under this baffle and upward through the compartment, passing over a submerged weir into the second compartment, which is equipped with a similar baffle and in which the flow is upward as in the first compartment. The second compartment is provided with a suspended trough which removes the aerated sewage. Both aerating tanks are constructed in this manner.

Each compartment of the two aerating tanks contains corrugated asbestos and cement plates for contact media, extending from 2 inches below the liquor level to approximately the bottom of the vertical tank walls. The contact media rests upon a grillage of steel rails and 7/8-inch square iron bars. This arrangement provides for a proper distribution of the upward flow and prevents "short-circuiting" of the flow.

The air distribution system, in each tank, is suspended below the contact media supports and consists of parallel 3/4-inch pipes, 1 foot on centers, perforated with 1/8- and 3/16-inch holes.

Sewage from the preliminary sedimentation tank is introduced into the first stage aerator, which has a net detention capacity of one hour; here it is acted upon by the first group of organisms, which form in great numbers on the contact media. These organisms, in the presence of diffused air, attack the sulphur compounds in the sewage and precipitate them as insoluble sludge. Coagulation of colloidal matter then takes place, which results in additional settleable solids. The life cycle of the various organisms is such that a continuous sloughing-off of the zoogloea film on the contact media takes place, which also forms sludge.

The effluent from this first aeration tank is directed to a secondary sedimentation tank similar to the first sedimentation tank, in which is removed much of the suspended matter which would other-

wise inhibit the growth of the organisms found in the second aeration tank.

From the secondary sedimentation tank a somewhat clarified effluent is obtained and thence directed to the second aeration tank, where it is subjected to oxidation and nitrification by the organisms which attach themselves to the contact media. Sludge formed in this second aeration tank is a great deal lighter and more flocculent than that of the first aeration tank. Removal of sludge is identical with that of the other tanks. Effluent from this aerator is directed to the final sedimentation tank, which is identical with the preliminary. The result of this is a clarified effluent.

The sedimentation tanks are designed in accordance with general design of other sedimentation tanks in other processes, and each has three hopper bottoms for the collection of sludge. Sludge is withdrawn from both the sedimentation and aeration tanks by hydrostatic pressure and discharged through manholes to a sludge well, from which it is pumped to a sludge digester.

The only mechanical equipment used at the Garland plant is two Roots-Connersville positive pressure blowers driven by electric motors, and one Chicago sludge pump. The electric power cost for complete operation approximates $20 per month. Labor for operating this plant requires the part-time service of one man; about four hours per day.

Operating Results

While the plant is designed for a flow of 150,000 gpd, it will adequately and satisfactorily treat 200,000 gpd. The present flow averages approximately 105,000 gpd. Methylene blue tests so far completed definitely show 100 per cent stability; the plant is removing 92 per cent of suspended solids; approximately 97 per cent of the bacteria and, as indicated by the bio-chemical-oxygen demand (B.O.D.) tests, 96 per cent of the organic matter. The final effluent is clear and therefore not objectionable in appearance, and is nonputrescible. Fresh water algae, which are found only in clear water, are growing in the vicinity of the outfall line. Dissolved oxygen in the final effluent is averaging about 5 ppm.

Digested sludge has been drawn from the digester and was found to be thoroughly digested; practically no odor was noticeable, and the dried sludge has an inoffensive odor. This dried sludge will be used for fill in low places on the present site and as a fertilizer in the landscaping and beautification of the site.

The entire plant and sewer collection lines were constructed as a WPA project, at a total cost of $34,336, of which the city contributed $20,993, and WPA $13,343. Certain parts of the design are covered by a United States patent owned by Hays Process Company.

Detailed design and supervision of construction were under the direction of D. B. McNerney and P. S. Milner of H. B. Gieb & Company, consulting engineers, Dallas, Texas.

Local Taxes and HOLC

THE filing by the Home Owners' Loan Corporation of protests on the assessed valuation of practically all properties under the control of that corporation in the municipalities within Westchester County, N. Y., "with little regard to the justice of filing such protests," is strongly deplored in a resolution adopted on January 9, 1941, by the Westchester County Village Officials Association.

Pointing out that "the valuation of properties within the various municipalities, due to the trying circumstances of the past decade, has become a very intricate problem of adjustment in order to properly balance tax levies and expenditure budgets," and stating that "over 99 per cent of the local owners of local property, appreciating the conditions of the present times, are content to accept assessment valuations for local taxation purposes as set by the assessing department and elected local officials who are responsible for and do balance the annual municipal budgets," the resolution criticizes "the further action of Federal officials in applying for a writ of certiorari after the local Board of Review on Assessments, from due and serious consideration of all protests filed, had found it extremely inadvisable to reduce assessed valuations as requested in the said protests."

The Village Officials Association further states that "our municipalities look upon this action of the Federal agencies as a lack of cooperation with local governments which will greatly interfere with and embarrass them in the orderly conduct of their affairs, and subject them to large legal and other expenses which they are not, at this time, in a position to assume," and petitions "the proper Federal authorities to require the withdrawal of the certiorari actions instituted by the HOLC and other Federal agencies."

In reply to an inquiry from the editor of THE AMERICAN CITY, regarding points raised in the foregoing resolution, General Counsel Harold Lee of HOLC writes under date of January 25:

"In several of the New York cities, towns, and villages it is very apparent that properties owned by the Home Owners' Loan Corporation are assessed for tax purposes in amounts greatly in excess of actual or reasonable values. This conclusion was reached only after careful studies of all factors involved had been made. Thereafter, the Corporation took steps, as provided by law, to obtain a review of the assessments made and asked for reductions to amounts more nearly in keeping with actual values. . . .

"Home Owners' Loan Corporation is obligated to pay taxes upon the real property which it owns and it has no desire to avoid that obligation in any instance. The Corporation seeks only to have valuations kept somewhere within reasonable bounds, taking action only where it appears that taxing officials are assessing its properties in amounts greatly in excess of reasonable values."

Here is the case for the municipalities, as presented editorially by one of the Westchester County newspapers, the *Larchmont Times:*

"Such an atitude as is evidenced in this 'blanket protest' may well cause alarm in view of the fact that the Government is becoming a property owner of fast growing proportions in all our communities. The amount of property which has been falling into its hands in recent years is little less than startling. We may well view the situation with alarm, for if the Government is to take a stand for unduly low assessments and we accede to its requests, we are bound to see these Government assessments dragging the entire assessment roll down with them. Few communities enjoy such a condition of finances that they could long survive an ordeal of that sort without being plunged into bankruptcy. . . .

"Paying taxes may not be fun for the Government, but it long ago ceased being fun for the individual taxpayer. The Government should be as heroic about taking its medicine as other taxpayers are."

Regional Conference of Mayors Studies National Defense

ATTENDED by approximately 400 municipal officials from all states lying between the Alleghanies and the Rockies, the United States Conference of Mayors held an important regional meeting in St. Louis on February 21. Because of the important impact of the defense program on cities, it was agreed that regional conferences of this kind ought to meet as often as possible.

Resolutions adopted at the St. Louis meeting included a proclamation on national defense and advocacy of more effective cooperation with Canada and the Pan-American republics, of similar scope to resolutions adopted at the national conference in New York last September (and reported on page 5 of THE AMERICAN CITY for October, 1940). There was also a resolution requesting the War Department to establish an Advisory Committee for Civil Defense of Cities, as an aid towards carrying out the recommendations on Civil Defense presented to President Roosevelt by the United States Conference of Mayors (as reported on page 5 of THE AMERICAN CITY for February, 1941).

Three other important resolutions of the St. Louis Conference are summarized below:

For "Farming Out" of Defense Production

This resolution called upon the National Defense Advisory Commission and the newly created Office of Production Management to put into effect, without delay, policies which will give effect to "farming out" in order that national defense production may be augmented to the maximum of the country's productive resources, and urged that these Federal agencies enlist the active collaboration of the cities of the country in order that the resources of equipment, management and labor in the thousands of smaller plants be immediately mobilized for participation in the national defense production effort.

In support of these recommendations the Conference pointed out that:

In order to effectively and speedily carry out the defense program, it has been necessary to mobilize all the elements of our national strength—physical, economic, political, and social.

In the realm of production, total mobilization of resources means that no industrial plant, no matter how small, and no group of workers, no matter how few, can be permitted to be kept out of participation in production for national defense, since the success of this program depends upon the utilization of all our knowledge and organizational skill, all our stocks, our machines and means of transportation.

It is unmistakably clear that all of the country's productive resources of plant and labor are not now being utilized, as witnessed by the fact that of 511 concerns to which a total of 7 billion dollars in national defense contracts have been awarded, 95 per cent has gone to 114 large corporations.

In addition to the increase in output of national defense material and equipment which would result from the prompt utilization of the facilities still available in thousands of smaller plants throughout the country, the morale of the country's small-business and labor forces would be greatly improved and their feeling of participation in national defense strengthened.

The utilization of the facilities available in the smaller plants of the country would not only prevent the undesirable further concentration of industry in a relatively few giant corporations, but would help to maintain the stability of production, employment, and consumption in the country's smaller communities.

The policy of "farming out," i.e., the distribution of work on a subcontract basis from the larger prime contractors to smaller concerns in their vicinity, is recognized as affording the most practical means of bringing the facilities of the smaller plants of the country into production for national defense.

Public Works Planning for the Future

This resolution called attention to the fact that the present emergency reduction in unemployment may tend to lead the Nation into a false sense of economic security and a consequent neglect of the facilities which have been carefully built up over a long period of years to provide economic security; and that the chief executives of cities throughout the United States have particular reason to be apprehensive of the time when the employment created by present emergency demands will be discontinued and the adjustments incidental to the establishment of full peace-time employment may create a possible need for public work projects in the future.

It was therefore resolved "that this Conference recommend to the President of the United States that a reservoir of non-Federal public projects be provided for use in such periods of adjustment; and we urge the preparation by the WPA of a nation-wide project to assist municipalities and other local governmental agencies in securing and preparing not only information and data, but *detailed working plans and specifications* of useful public projects and to establish a reservoir of such projects to absorb workers released from military and civil duties dependent on defense activities; and we urge that such a project be given a priority by the WPA second only to projects certified as of value for national defense."

Transportation

To the President and Congress "and all those concerned," the Conference addressed a petition "that they commence at once not only to plan but to promote a great national and adequate system of waterways and connected roads to supplement our rail transportation sufficient to meet reasonable military and civil demands."

In support of this resolution attention was called by the Conference to "the fact that one of the principal reasons why other countries have in the past been so successful industrially and, similarly in the development and rapid mobility of their gigantic military machines, has been the systematic and intensive development of their transportation systems, most particularly their natural and artificial waterways and highways for purposes of carrying the slow-moving raw materials and cargo; that such a development would make it far more practical to construct ships and to locate many war essential industries in the great valley between the Rockies and the Alleghanies; that past experience has demonstrated that there is a possibility of overtaxing of our railroad transportation system that should be avoided in time of real crisis; and that the planning, if not the building, of adequate transportation means is an essential part of any real defense program, and is, moreover, a much-needed part of the reconstruction plan to help solve the difficulties of internationally intensified competition."

Cost Accounting for Efficiency of Operation

Waste-Collection Division of Cincinnati, Ohio, Uses Records to Improve Operation, Excludes Fixed Charges

By RALPH C. TAYLOR
Superintendent,
Waste Collection Division,
Department of Public Works

THE use to which cost data are to be put determines the information to be gathered, method of preparation and timing of the reporting periods. The primary use of the records gathered by the Waste Collection Division in Cincinnati is for administrative control and only secondarily for statistical information. This led to the adoption of an engineering type of cost accounting for control and not a commercial type for determining prices. The system adopted is predominantly a yardstick for measuring efficiency. Items such as depreciation and interest on land and buildings and incinerators were excluded because they are in the nature of fixed charges and their inclusion would add nothing in measuring operating efficiency. The item of depreciation of motor equipment was included because it is a measure of the proper operation of motor equipment used by the Division personnel. In a similar manner, items of maintenance of plant and replacement parts are included because they reflect operating conditions.

Earlier Accounting

Prior to 1932 a manual system of bookkeeping and cost accounting was used which had been set up in 1912 and based on the use of horse-drawn equipment and the practice of that day. The system was very accurate, but cumbersome. The costs and results were not sufficiently detailed and the information was available too late to be of much use for current measurement of operating efficiency.

Coincident with the taking-over of the collection of garbage from a private collector by the city in 1931 as a municipal function, the Department of Public Works was reorganized and a Division of Records was created as the central accounting division for the Department.

With the assistance of a committee of accountants from the Committee on Uniform Street and Sanitation Records, of the American Public Works Association, the various divisions of the Department of Public Works made an extensive study and analysis of the existing system and what changes should be made. This survey resulted in a re-designing and modification of the old field reports and adapting their use to mechanical accounting machines of the tabulating type.

Records Start in the Field

The foundation of the entire system of accounting rests on the reports made by the field men. It is absolutely essential that the records turned in from the field be sufficiently detailed to give usable and complete operating records. It is also essential that these reports be accurate if the final results are to be accurate.

It is obvious that it is very desirable to sell a field force on the importance and usefulness of accurate and complete cost records. To carry out this task of instruction for the foremen and those making up the field reports, a series of classes and discussions was held in which the use to which each man could put the available information to his own advantage in the operation of the unit for which he was responsible was stressed. Particular emphasis was laid on the coordination of the cost records with his personal knowledge of conditions in the field and also how each man could, through analysis, improve the efficiency of the force under his control. The mechanics of filling out the forms was discussed, with explanations of the reasons for each breakdown. The importance of accurate allocation of expenditures to the proper function was brought out by the use of theoretical problems. To help the foreman and supervisors in using the information and to stimulate their interest still further, special forms were devised to summarize the information from each district. These forms utilize the information submitted by the foreman and are kept by him for a running check on the daily activities of his district.

The field reports are divided into two sections, one a report on personnel used and the other a report on equipment used. The personnel side of the report sheet is also divided into two sections, one a payroll or time sheet, the other a cost breakdown sheet. The payroll side gives the name of each employee used, his payroll number, title of his position, the number of hours worked that day, his rate per hour and the extension of the amount earned.

The cost section gives the distribution of the time of each employee to the project on which he worked. For the collection forces it is indicated whether he was engaged in the collection of combustible or non-combustible waste, whether his time was spent in emptying cans or setting out and putting back the containers, on what route he worked and how many hours were spent on each task or route.

On the reverse side of this form the same information is indicated for the equipment, which is charged out on an hourly basis. Here also appear the weight of combustible waste delivered to the incinerator, and the cubic yards of non-com-

CITY OF CINCINNATI

DAILY REPORT OF GARBAGE AND ASH COLLECTION

Department of Public Works
Division of Waste Collection

REPORT OF EQUIPMENT USED

REVERSE OF
DAILY REPORT OF GARBAGE AND
ASH COLLECTION

CITY OF CINCINNATI

DAILY REPORT OF OTHER WORK AND NON-PRODUCTIVE TIME

Department of Public Works
Division of Waste Collection

OPERATING DATA

(In making the following computations transfer pounds of refuse into tons and tenths of tons)

OPERATING ANALYSIS

1. Plant operation time this shift ..... Hours
   (a) Operating of Furnace No. 1 ..... Hours
   (b) Operating of Furnaces No. 2 and 3 ..... Hours
2. Refuse destroyed per plant hour ..... Tons
3. Refuse destroyed per man hour ..... Tons
4. Refuse destroyed per prison labor hour ..... Tons
5. Refuse destroyed per paid labor hour ..... Tons
6. Ashes removed this shift ..... Tons
7. Per cent of ash content ..... %

REFUSE INVENTORY

8. Refuse in bin start of shift ..... Tons
9. Refuse delivered this shift ..... (Pounds .....) ..... Tons
10. Total refuse to be destroyed ..... (Pounds .....) ..... Tons
11. Less refuse in bin at end of shift ..... (Pounds .....) ..... Tons
12. Net amount of refuse destroyed ..... (Pounds .....) ..... Tons

TEMPERATURES

13. Maximum temperature—Furnace No. 1 ..... Degrees
    Furnaces No. 2 and 3 ..... Degrees
14. Minimum temperature—Furnace No. 1 ..... Degrees
    Furnaces No. 2 and 3 ..... Degrees
15. Minimum temperature while cleaning fires—Furnace No. 1 ..... Degrees
    Furnaces No. 2 and 3 ..... Degrees
16. Cleaning combustion chambers—Furnace No. 1 ..... Hours
    Furnaces No. 2 and 3 ..... Hours
17. Time of burning down and cleaning Furnaces ..... from ..... to .....

POWER ANALYSIS

18. Power meter reading at end of shift ..... K. W. H.
19. Power meter reading start of shift ..... K. W. H.
20. Power consumed this shift ..... K. W. H.
21. Power consumed per ton of refuse ..... K. W. H.
22. Time boiler operated with coal ..... Hours
23. Amount of coal used ..... (Pounds .....) ..... Tons

REVERSE OF
INCINERATOR SHIFT FOREMAN'S DAILY REPORT

CITY OF CINCINNATI

INCINERATOR SHIFT FOREMAN'S DAILY REPORT

DEPARTMENT OF PUBLIC WORKS
DIVISION OF WASTE COLLECTION

RECAPITULATION—WORK REPORTS

bustible waste delivered to the dump from each route. Each load of garbage is weighed at the incinerator, and the driver is given a ticket which is turned in to the foreman at the end of the day. The loads taken to the dump are estimated by the district foreman. These estimates are based on actual measurements made from time to time and checked periodically by the supervisors.

Incinerator Reports

The cost section on the incinerator reports presents a time distribution for charging, firing, removal of ashes, plant maintenance, ground maintenance, stand-by time and supervision. The reverse side of this sheet presents the notation of complete operating data. The items included are: number of hours of operation for the plant; number of hours of operation of each furnace; refuse destroyed per plant-hour and per man-hour; number of tons of ashes removed by the shift; and per cent of ash content. An inventory of the refuse, giving the refuse in the bin at the start of a shift, the tonnage of refuse delivered during the shift, the total refuse to be destroyed, and the number of tons in the bin at the end of the shift, are recorded. The minimum and maximum temperature of each furnace and the number of hours consumed in cleaning combustion chambers, and the time of burning down and cleaning out furnaces, are indicated. A power analysis showing the power consumed during the shift, and the power consumed per ton of refuse, completes the information given.

Each incinerator foreman makes out these reports daily and delivers them to the supervisor in charge of the incinerator at the end of each shift, for him to check.

Other field reports used are those giving the time and work of the garage men, the men employed on the dumps, and a sheet used to report all time consumed in non-productive work and work for other departments or divisions.

Field Office Completes Reports

Before the foremen turn in these reports they balance the payroll section with the cost section. When a foreman has completed this, he turns the report over to the supervisor, who checks the entries, making notation of the information which he desires, and he in turn submits the report to the field office. In the field office one clerk enters the information from the payroll section on a master payroll. Another clerk tabulates the cost data manually on a recapitulation sheet. When these operations have been completed and the master payroll and costs have been totaled, they are balanced one against the other. With this balance the payroll is checked daily, as are the cost data on the reports. These reports, which have been checked, are then forwarded to the Division of Records.

The field reports used by the Highway Maintenance Division of the Department of Public Works are of the same general type, adapted to the requirements of the work to be reported.

Tabulation of Records

In the Division of Records the information from the field reports is punched on tabulating cards. After the punching operation each card is verified for accuracy. Through mechanical tumbling, sorting, and tabulating, any combination of cost records may be obtained. The reports found most useful for operating control of the Waste Collection Division, and now furnished to it by the Division of Records, are: (a) cost by individual routes and districts; (b) cost by operations; (c) cost by equipment numbers showing the amount of waste collected by each piece of equipment, and the number of hours the equipment worked.

All non-productive labor is charged into overhead. This includes supervision, injury with pay, stand-by time, report time, and garage men's time. Vouchers covering the expenditures for materials and services rendered the divisions are coded by operation numbers to the proper activities. This is further distributed to the various functions on the basis of direct labor costs.

Monthly Reports Studied

The reports submitted to the Waste Collection Division by the Division of Records include:

(1) Monthly reports of cost of collection by combustible and non-combustible materials by routes and operation.

(2) Monthly report showing hours and units of work performed by each piece of equipment operated by the Division.

(3) Monthly summary report on collection, giving expenditures and unit costs on the following: direct labor, equipment cost, set-out and set-back, overhead and totals for both combustible and non-combustible collection and the cost of maintenance operation of the dumps and grounds.

(4) The monthly summary report of incineration, which gives for the three incinerators operated by the Division: the expenditures and unit cost of charging, firing, removing ashes, plant maintenance and ground maintenance at each incinerator, and a combined statement for the three.

(5) Annual reports, which are a yearly recapitulation of the monthly summary reports.

(6) An annual report on equipment operation, showing maintenance operation, depreciation and overhead cost of equipment. This also includes a balance sheet showing the equipment earnings based on the charges used during the current year. This report is used as a basis for the following year for determining rental rates for all equipment.

When these reports are received from the Division of Records, they are studied very carefully. Comparisons are made with the previous report periods and for comparable report periods of earlier years. The results shown are compared also with the work program set up for the current year to determine the progress of the year's planning. All factors influencing the work favorably or unfavorably are noted, to determine whether these factors should be regularly provided for or whether they are chance variations.

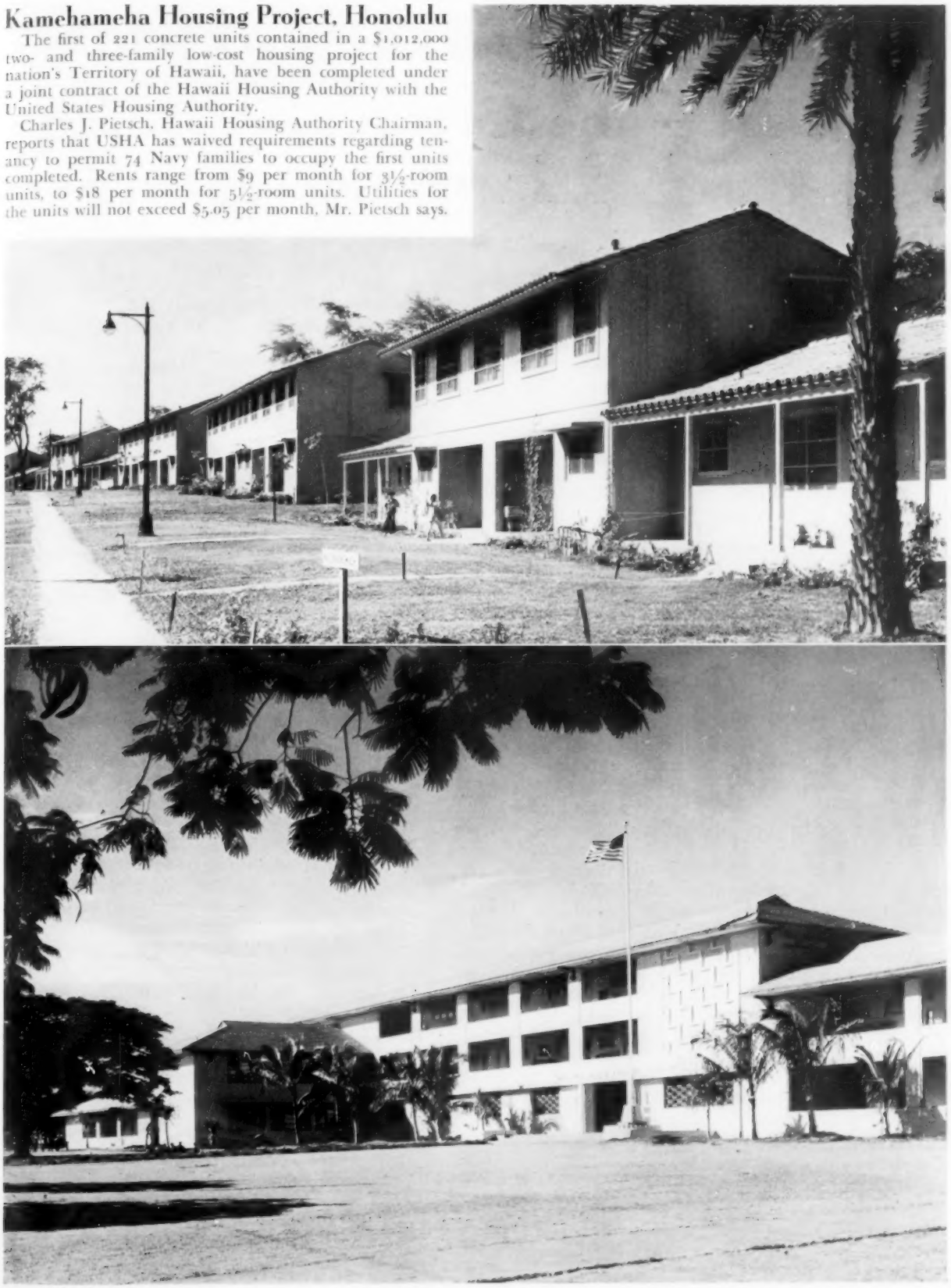
The reports are then discussed with the various supervisors, who in turn go over them with their foremen. Each of these discussions brings out the problems encoun-

(*Continued on page* 81)

Kamehameha Housing Project, Honolulu

The first of 221 concrete units contained in a $1,012,000 two- and three-family low-cost housing project for the nation's Territory of Hawaii, have been completed under a joint contract of the Hawaii Housing Authority with the United States Housing Authority.

Charles J. Pietsch, Hawaii Housing Authority Chairman, reports that USHA has waived requirements regarding tenancy to permit 74 Navy families to occupy the first units completed. Rents range from $9 per month for 3½-room units, to $18 per month for 5½-room units. Utilities for the units will not exceed $5.05 per month, Mr. Pietsch says.



COURTESY OF PAN-PACIFIC PRESS

At top—A typical street in Honolulu's first low-rent housing project, known as Kamehameha Homes and developed by the USHA. The Wallace Rider Farrington High School in Honolulu is situated directly across the street from the Kamehameha Homes. Enrolment at this school is over 2,000

A New Public Relations Field —The Complaint Bureau

Dallas, Texas, Establishes a New Activity Which Aids City Departments to Greater Efficiency and Gives the Citizen More Confidence in His City

By Ayres Compton
Director,
Bureau of Public Information
and Complaints,
Dallas, Texas

LESS than twelve months of trial experience has convinced Dallas taxpayers and city officials that the Bureau of Public Information and Complaints deserves a permanent role in the operation of municipal government. Citizens have come to look upon the Bureau with confidence heretofore unknown. To them it is an agency acting in their behalf and responding quickly to their requests. To city officials it is a trouble-shooter and time-saver for other departments, where in the past many hours of valuable time were wasted on misdirected complaints and requests for "A to Z" information.

"Before—"

We are often asked the question, "What did people do before the Bureau came into operation; where did they go with all their questions; and to whom did they look for a solution to their complaints?" The fact is—they wandered doubtfully through the corridors of the Municipal Building, first into one office and then another. Whether in search of information or armed with a grievance about some phase of city service, it meant needless interruption on the part of employees—all because it was no particular employee's duty to answer questions or accept complaints.

"And Now"—Simplicity

The routine method we have adopted in handling complaints is a simple one. After all, there is no necessity to make the operation of a complaints bureau a complicated and intricate job. With us it is merely a matter of accepting the complaint with diplomacy and courtesy, reporting the information accurately, and seeing that the complaint reaches the proper destination. Naturally, each complaint should be followed up periodically until completed. In this connection a definite follow-up period is allowed. This we have arbitrarily set at five days, and we try not to deviate from it as a definite requirement. It should always be remembered, too, that the complainant is the most important factor in each case, and for that reason he should be notified promptly when disposition is made of his complaint.

A Typical Case

As a matter of explanation, let us follow a more detailed course of a typical case. When a citizen files a complaint, either in person, by letter, or by telephone, the clerk in charge makes a typewritten report in triplicate on forms provided for this purpose—white original, pink duplicate and yellow triplicate. Each report includes the following information: date taken; subject of the complaint; name and address of the complainant; department to which complaint is to be referred; pertinent circumstances and conditions; the follow-up date; and the clerk's signature. Each complaint carries an index number; also shown on each report form is a key letter—T, L, or P—indicating whether the complaint is reported by telephone, letter, or in person. In conjunction with each report a 3 x 5-inch index card is made, showing the complainant's name, complaint number, date taken, and department to which complaint is referred. This serves as a cross-index, useful in cases where we are asked for information on complaints with only the complainant's name furnished.

With all the information properly recorded, the complaint is now ready to follow its routine course. The original white copy is retained by the Bureau for the tickler file, so that five days hence it automatically comes to the attention of the complaint clerk to follow-up. The second and third, pink and yellow, copies are sent to the department for handling. When the complaint is given final disposition, the pink copy is retained in the files of that department, the yellow copy being returned to the Bureau. The returned copy, once received by the Bureau, is then attached to the original, or tickler copy, and both are lodged in a master file (according to departments and by months) for future reference. Just before the file is closed, the date of completion is stamped on the complaint form and also on the index card. The next and final step is a letter or phone call to the complainant, notifying him of the disposition of his complaint.

In Case Action Lapses—

"What steps are taken in cases where department heads fail to report on complaints after expiration of the five-day follow-up period," we are asked. In a case of this kind we advise the department head by memorandum that a report on the complaint in question is overdue. The reason for the delay, when reported by the department head, is then relayed to the complainant. Street complaints during a siege of bad weather often require more than the prescribed follow-up period. In this case we

Health Department
Date Taken 10/15/40
OCT 20 1940
3"x5" Index Card
(SAMPLE)
CITY OF DALLAS
INFORMATION & COMPLAINT
Date Taken 10/15/40
Follow Up 10/20/40
Name John Doe
Address 1000 Main
Complains that residents in the 1000 block on Main throw loose garbage in the alley, causing a bad odor and insanitary condition.
Taken by F. Coolidge
REPLY
Report by
Reply on back if necessary
8¼"x10¾" Complaint Report Form in Triplicate
City of Dallas
OFFICE MEMORANDUM
Date: 10/21/40
To: Dr. M. B. Starnes, Chief, Inspection Division.
Subject: Complaints
According to our records, no disposition has been made of the following complaints:
Date Taken | Number | Date Due
10/15/40 | 8504 | 10/20/40
If more time is needed, please designate in the space below, including necessary comments, and return to the Bureau.
BUREAU OF PUBLIC INFORMATION
The Follow-Up to Departments
CITY OF DALLAS
TEXAS
Mr. John Doe,
1000 Main Street,
Dallas, Texas.
Dear Sir:
It was our pleasure to serve you some time ago through the facilities of our Bureau. We trust your complaint was adjusted to your entire satisfaction.
Won't you take the time to let us hear from you so that we may have an expression of your opinion about our efforts to please you. Just a note of comment will do. The enclosed postal card is provided for your convenience. Just fill it out and mail it today - no postage is necessary.
Assuring you of our appreciation for your co-operation and of our constant desire to serve you, we beg to remain
Sincerely,
BUREAU OF PUBLIC INFORMATION
AC:FC
Director
Bureau of Public Information:
Your assistance in regard to my recent complaint was:
Entirely satisfactory
Fairly satisfactory
Unsatisfactory
Remarks:
(Name)
(Address)
The Post Card Poll of Complaints With the Post Card

The Series of Simple Forms Which Record, Answer and Check Complaints Registered by Citizens of Dallas, Texas

usually solicit the complainant's indulgence at the outset in explaining this seasonal difficulty—that a delay is to be expected for the reason mentioned.

Public Relations

It is important to maintain personal contact with complainants, even after their complaints have been cleared. After all, operating a complaints bureau is a public relations function, and where the city administration can improve its relations with the public through contact, certainly this opportunity should not be overlooked. On one occasion we used a post-card poll in an effort to measure reaction of the public toward the Bureau. A concise, courteous letter of inquiry was sent to all complainants contacted to date. With each letter went a Government post-card, which when properly filled out by the complainant and returned to the Bureau, gave us an indication of public attitude in regard to the manner in which complaints were handled. The result of this poll was very gratifying inasmuch as each complainant seemed to feel that the city administration had taken a personal interest in his particular case.

Location of Bureau

The Bureau of Public Information and Complaints is centrally located on the first floor of the Municipal Building. Owing to its accessibility to the public, we are called upon constantly to answer questions of all descriptions. This part of our job is of major consequence when the element of time is considered. When we have less than 200 information requests a day we feel that our business has not been up to par. Little did we realize in the beginning that we would be expected to furnish information covering more than a few general questions pertinent to city government. We have since found, however, that the public expects the Bureau to answer all questions, and we are constantly arming ourselves with facts and figures in an attempt to satisfy their expectations.

And What Questions!

Persons who have not had the experience of acting in the capacity of an information clerk might be astonished at the type of questions we get every day. These range from the simple garden variety to the more technical, and many times confidential questions about domestic relations, personal finances, and neighborhood quarrels. Most requests are for directional information—how to find a certain department of the city government, or where to go to transact certain city business. On the other hand, we are sometimes called upon even to help locate missing persons. Such questions as the following are indicative of the latitude of inquiries that come to us each day:

"What congressional district is this, and who is the congressman?"

"Where can the British Consul in Dallas be located?"

"Is the A—— B—— Insurance Company a safe investment?"

"Who was the Democratic presidential candidate in 1928?"

"Where can I go to get a fountain pen fixed?"

"Where do I go to register pigeons?"

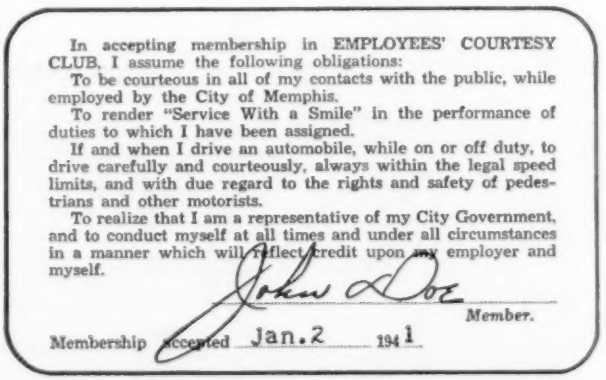
"I live at 3918 Gilbert; where do I go to vote?"

Many inquiries are on the humorous side—such as:

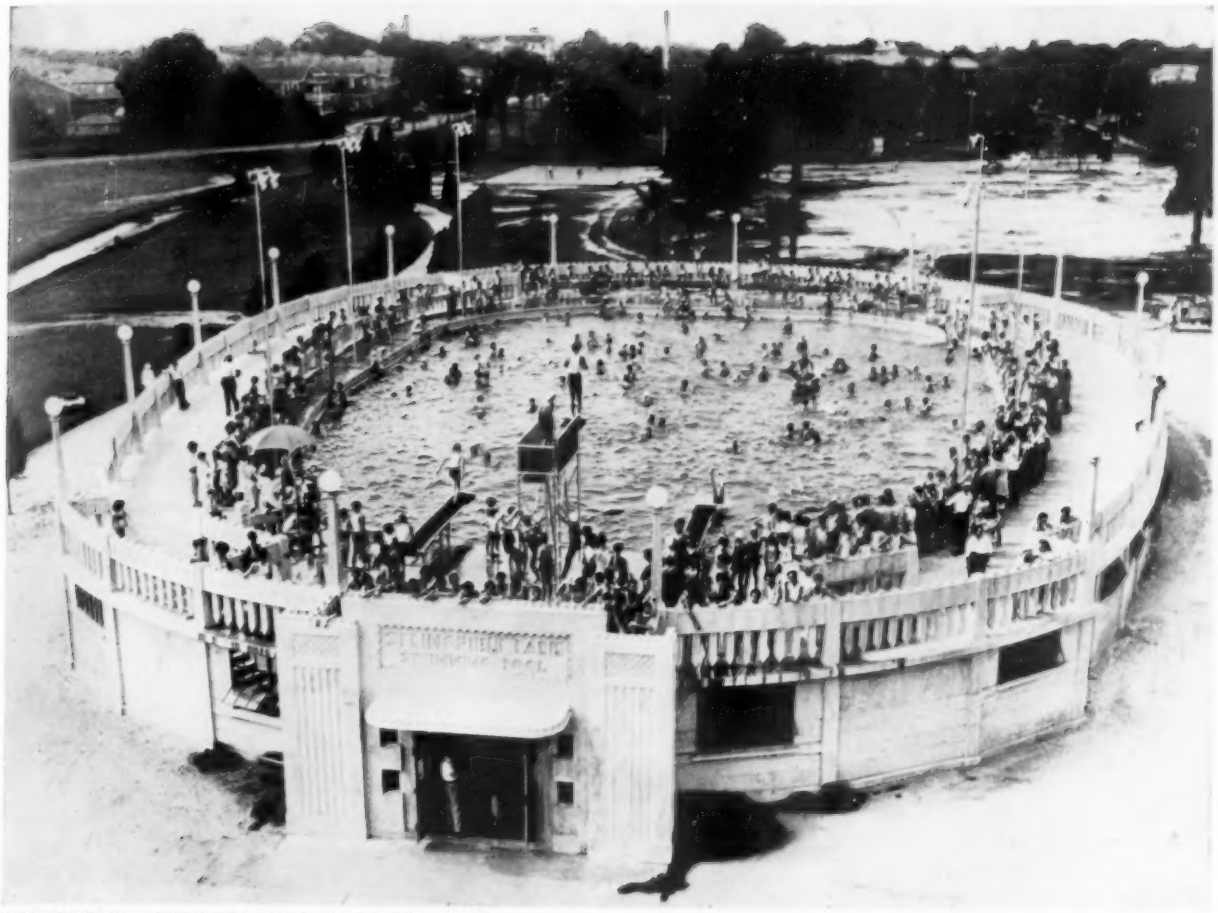
"Where do I go to 'surrender' my taxes?"; or "Where does a person go to 'put in' for alimony?"

It is not infrequent that persons stop at the information desk and ask to buy stamps, change for a quarter, or that the clerk in charge call the solicitor a taxi. Rather sensitive about it at first, we have since learned to say with a smile to the man who tosses a nickel on the counter that ours is an information desk and not a cigar stand.

We have the feeling somehow that, while the Bureau is yet in its infancy and we have made, doubtless, many mistakes, we are performing a service that is appreciated by the public and one which is reacting favorably in behalf of the city administration.


In accepting membership in EMPLOYEES' COURTESY CLUB, I assume the following obligations:
To be courteous in all of my contacts with the public, while employed by the City of Memphis.
To render "Service With a Smile" in the performance of duties to which I have been assigned.
If and when I drive an automobile, while on or off duty, to drive carefully and courteously, always within the legal speed limits, and with due regard to the rights and safety of pedestrians and other motorists.
To realize that I am a representative of my City Government, and to conduct myself at all times and under all circumstances in a manner which will reflect credit upon my employer and myself.
John Doe
Member.
Membership accepted Jan. 2 1941

Mayor Walter Chandler of Memphis, Tenn., announces that that city has inaugurated a Courtesy Club for city employees, which has as its objective the encouragement of high employee morale, and of "service with a smile." The organization has no dues, no meetings—simply a pledge of courtesy and safe driving. Reproduced above is the membership card which is received by each official and employee signing the roster. It contains the city seal, the mayor's signature of approval, and the pledge. The membership list, rather than being passed around in city departments where it would be hastily filled out, is open for signature in the Mayor's office. The Mayor reports that employees are flocking to join.



PHOTOGRAPHS BY COURTESY OF WORK PROJECTS ADMINISTRATION

Jacksonville Has Big Modern Pool

AN ATTRACTIVE municipal swimming pool designed by Wesley Bintz, of Lansing, Mich., is in its first full year of operation in Springfield Play Park, Jacksonville, Fla.

The structure, built by the Work Projects Administration and sponsored by the city's Playground and Recreation Board, is of reinforced and architectural concrete. It is ovoid in shape—that is, an oval with flattened ends—surrounded by a concourse 16 feet 5 inches wide and an ornamental concrete rail.

The pool proper, 120 x 75 feet and 3 to 11 feet deep, holds 306,000 gallons of water and up to 668 bathers. Three-quarters of its area is of wadeable depth.

Two 4-inch inlet pipes each throw a direct flow of water into the pool, and seven additional pipes ranging from 2½ to 4 inches augment the flow. The basin can be filled at the rate of 260 gallons per minute, 15,600 gallons per hour, 376,400 gallons per day. Despite the continuous flow of water, the pool is cleaned twice weekly. On cleaning days, the bottom and sides undergo a thorough scrubbing with steel brushes. Waste water is carried off from scum gutters in 16 separate drains, thus assuring bathers of continuous fresh water. Ten exit ladders enable bathers to leave from practically any point, while four stairways lead into the pool.

The structure is equipped with two one-meter diving boards and one three-meter board. There are nine lanes of 25 yards and seven lanes of 40 yards for meets.

A feature of the installation is a group of three underwater windows from which spectators can watch swimmers from below the surface of the water. One of these windows is constructed to aid swimming coaches in instructing their pupils and has a tube speaking system for the convenience of the coach. The pool is lighted by eight floodlights, with smaller lights mounted on concrete posts on top of the concourse rail.

Anniston Expands Water Works to Supply Fort McClellan

Demands of Army Camp Require Paralleling 51-Year 20-Inch Cast Iron Main from Spring to City

CHIEFLY to supply the needs of Fort McClellan, the nearby army camp, the city of Anniston, Ala., has practically doubled its water supply with a recent 300,000 addition to its water works. The Federal Government already has billeted many thousand soldiers at Fort McClellan, and just how many more there will be even Uncle Sam himself is not sure yet.

The source of supply for Anniston is Coldwater Springs, about 6½ miles from the city, where the water bubbles up at the rate of 30,000,000 gallons daily and has been practically unaffected by droughts. This fountain source was first tapped in 1889, when a 20-inch cast iron main was built into the city. It is still in service after 51 years, and the pipe is in good condition, according to E. C. Knowlton, Manager of the Anniston Water Department.

To care for the increased demand caused by the army camp, a second pipe line, consisting of 34,500 feet of Class 200 and 150 20-inch cast iron pipe, was laid from Coldwater Springs to Anniston. Then a feeder line of 13,500 feet of 12-inch and 3,900 feet of 16-inch pipe was laid from the city to Fort McClellan. The 20-inch pipe was furnished by U. S. Pipe & Foundry Co., and the smaller line by the Alabama Pipe & Foundry Co., of Anniston. All valves were furnished by M & H Valve & Fittings Co., Anniston. The lines extend along the highway, and the pipe was delivered to the job by truck. The old pipe line serving the city was laid along the railroad right-of-way.

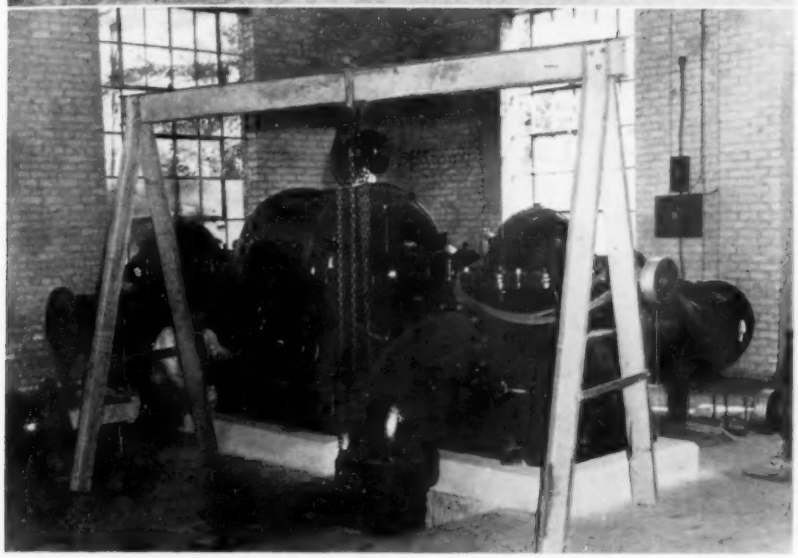
Pump-House Improvements

New facilities installed at the pump-house at Coldwater Springs include a Dayton-Dowd pump direct-connected to a 600-hp Westinghouse electric motor. The centrifugal pump has a capacity of 4,600 gpm, a head of 387 feet and a speed of 1,200 rpm. This equipment will supply 5,000,000 gallons daily through the new pipe line at less head than on the old line which it supplements. The old equipment at the pump-house includes two pumps, each powered by 300-hp motors, also with a capacity of 5,000,000 gallons daily. The city has three reservoirs, two of which are of steel and one of concrete, which furnish a reserve or standby supply of 8,000,000 gallons.

Pipe Laying

The work of laying the new cast iron line was begun October 28, 1940, with one crew, and a second crew was added on November 7, the job being completed in rush time soon after the middle of December. A Parsons Model 25 trencher, with a ⅜-yard Insley power shovel working in the rough places along the way, excavated the trench for the larger pipe, and a small Cleveland trencher dug the trench for the smaller lines. Three Caterpillar tractors with bulldozers were used for cleaning up the right-

Excavating Trenches for the New Cast Iron Lines at Anniston, Ala., with a Parsons Trencher and an Insley Shovel



The Exterior and Interior of the Pump-House, Showing the New Pump Installation

of-way and for backfilling the trenches.

About four years ago the city built the new pump-house, shown in the illustration, at Coldwater Springs, landscaped the grounds and made other improvements, including the installation of picnic tables, barbecue pits, drinking-water fountains and lights, so that the area now is a favorite picnic ground. The original plant was operated by steam, but it was electrified several years ago.

The water-works extension was made under the direction of Polglaze and Basenberg, engineers, of Birmingham, Ala. J. B. McCrary Co., Inc., of Atlanta, Ga., was contractor for the pipe-line installation for the Anniston Board of Water Commissioners, which operates the water works. The Commission includes Charles S. Martin, Chairman; R. B. Morgan and S. F. Street.

Finance Officers Conference to Feature Louisville Award

Louisville, Ky., will entertain the 1941 Conference of the Municipal Finance Officers Association of the United States and Canada on May 19 to 22. Headquarters will be at the Brown Hotel.

The principal topics for discussion will include extension of the Federal Social Security Act, the effect of the defense program, and a sound municipal fianance policy for the defense period. Technical problems of accounting, debt, revenues and budget control will feature two days of group meetings.

Presentation of the first Louisville award for an outstanding accomplishment will also be made for the first time. Local arrangements are in charge of John R. Lindsay, Louisville's Director of Finance.

Urban Recreation To Aid National Defense

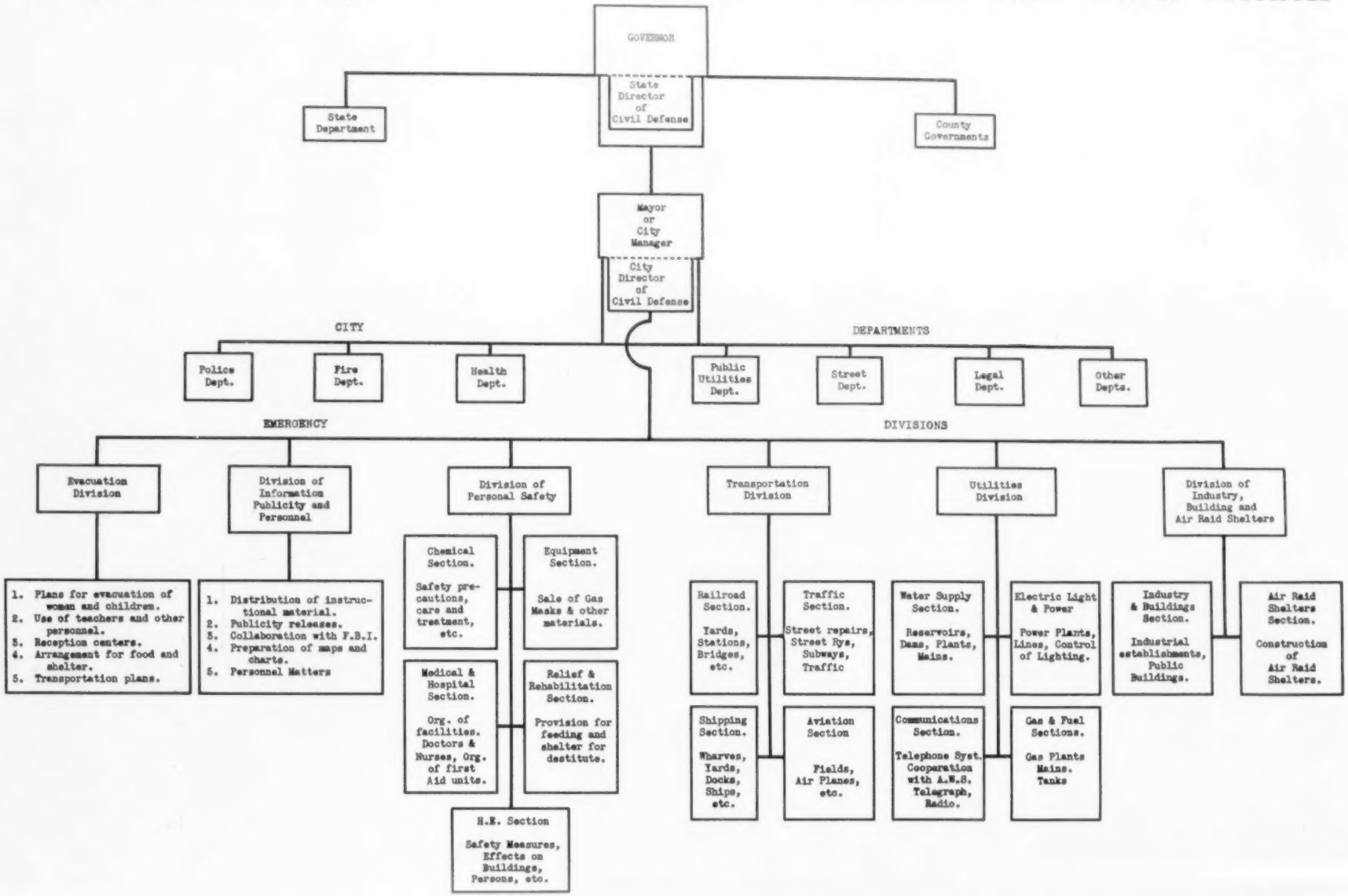
NATIONAL defense requires two outstanding elements in addition to the machinery and finances for war. These are physical fitness of the whole population and a high degree of morale of military men and civilians alike. A municipal recreation department can make a contribution to men in the service in two ways, first, through their regularly established municipal program of activities, and, second, by assisting military bases now being established in the planning of recreation facilities and programs for their men.

Dealing with the first of these items, it is suggested that the men in military service be invited to participate in the regular municipal leagues of team games and mass activities such as baseball, softball, basketball, and football. Second, tournaments of individual and dual activities which include tennis, golf, swimming, and handball are activities of particular interest to officers as well as enlisted men. Third, military units and the recreation department can sponsor properly supervised social recreation, including dancing, music, and dramatics. Likewise, the community can offer social outlets for officers in the service through their country clubs, yacht clubs, tennis clubs, and lodges and fraternal organizations. Through this kind of cooperative program, service men will feel that they are a part of the democratic society of the community, which will have a marked influence on their morale.

Municipal recreation can help in the planning of a program that will necessarily have to be established at army and naval bases by helping in the allocation of proper land areas located conveniently to principal groups of military men. Also, the superintendents of recreation and recreational engineers can assist in the construction, planning, and cost calculating of baseball and softball athletic fields, and basketball, tennis, and handball courts. Our recreation departments have a great deal of information with which to assist military groups in the planning of club buildings with writing and club rooms, bowling alleys, and billiard rooms. Again, the experienced personnel of our recreation departments can assist materially in the organization of military groups in setting up their own tournaments, league schedules, and mass demonstrations.

—From an address by NASH HIGGINS, Superintendent, Board of Public Recreation, Tampa, Fla., before the Florida League of Municipalities.

Proposed Municipal Plan for Protection from Air and Other Attack


GOVERNOR
State Director of Civil Defense
State Department
County Governments
Mayor or City Manager
City Director of Civil Defense
CITY
DEPARTMENTS
Police Dept.
Fire Dept.
Health Dept.
Public Utilities Dept.
Street Dept.
Legal Dept.
Other Depts.
EMERGENCY
DIVISIONS
Evacuation Division
1. Plans for evacuation of women and children.
2. Use of teachers and other personnel.
3. Reception centers.
4. Arrangement for food and shelter.
5. Transportation plans.
Division of Information Publicity and Personnel
1. Distribution of instructional material.
2. Publicity releases.
3. Collaboration with F.B.I.
4. Preparation of maps and charts.
5. Personnel Matters
Division of Personal Safety
Chemical Section. Safety precautions, care and treatment, etc.
Equipment Section. Sale of Gas Masks & other materials.
Medical & Hospital Section. Org. of facilities. Doctors & Nurses, Org. of first Aid units.
Relief & Rehabilitation Section. Provision for feeding and shelter for destitute.
H.E. Section Safety Measures, Effects on Buildings, Persons, etc.
Transportation Division
Railroad Section. Yards, Stations, Bridges, etc.
Traffic Section. Street repairs, Street Rys, Subways, Traffic
Shipping Section. Wharves, Yards, Docks, Ships, etc.
Aviation Section Fields, Air Planes, etc.
Utilities Division
Water Supply Section. Reservoirs, Dams, Plants, Mains.
Electric Light & Power Power Plants, Lines, Control of Lighting.
Communications Section. Telephone Syst. Cooperation with A.W.S. Telegraph, Radio.
Gas & Fuel Sections. Gas Plants Mains. Tanks
Division of Industry, Building and Air Raid Shelters
Industry & Buildings Section. Industrial establishments, Public Buildings.
Air Raid Shelters Section. Construction of Air Raid Shelters.

One of the Flowering Parkways That Lead to Nashville

An Iris-Bordered Boulevard

IF YOU were driving into Nashville, Tenn., over Riverside Drive in early May, you would run suddenly into more iris blooms than you ever thought existed anywhere in the world. This beautifully shaded highway divides into two parts as you come within hailing distance of the Tennessee Capital City and in between these two roadways is a boulevard heavily bordered on both sides with iris in a full springtime profusion of colorful blossoms. At first you think of it as only a small stretch of flowering parkway which will end at the next crossing, but to your amazement and delight it follows you on and on around curves and bends, broken only at intersections. On and on you go, leaving mile after mile of rainbow colors behind, until you have covered five miles of this scenic beauty, which ends only as you come into the city of Nashville.

But this isn't all. You will enter a city where the people are more iris-conscious than anywhere else on earth. Seven years ago the local Iris Association decided to make Nashville the Iris City. The members of the organization asked for cuttings from private gardens which were to be distributed, free on request, to all those in the city who would agree to plant them. In a short time between 35 and 40 truckloads were passed out. Since that time 15,000,000 bulbs have been scattered around and put to work.

As a result, the boulevard on Riverside Drive is only a beginning. There are vast beds of iris on the lawns of hundreds of Nashville homes. Great areas of the city parks are covered with them—in one park 20 acres of iris blooms, and on parkways along eight highways running into the city. At the city airport is what is said to be the largest single planting on earth—one mile long and fifteen feet wide. One variety has been developed that blooms six times a year.

One week in each May is set aside for an Iris Festival. During this time thousands of visitors come to Nashville and enjoy these magnificent beauty-spots.

ROSS L. HOLMAN.

English Housing Project Planned with Air Raid Precautions

PLANNING has not been forgotten in England during the war; in fact, the very exigencies of war itself are forcing certain planning advances, creating opportunity for others. For one thing, the widespread destruction in London will provide opportunities to rebuild parts of it according to good planning principles, with added open spaces.

Planning has had another "lucky break" from the fact that principles of community building for safety against air raids involve the spacious type of dwelling layout long advocated by planners. The plan below, taken from the *Journal* of the Town Planning Institute of England, has been adopted by the Joint Planning Committee and the Borough Council of the Borough of Slough in England, for a housing development, Wexham Court Farm. It illustrates the fulfillment of these two requirements — for precaution against bombs from the air, and of planning.

The main points of principle upon which this development was planned are those agreed upon by the Air Raids Precautions Department of the Home Office and the Town Planning Division of the Ministry of Health. They are outlined in the *Journal* as follows:

1. Segregation of industrial and residential zones by belts of open land.

2. Grouped communities, kept relatively small, should be planned on an open pattern, interspersed by small parks, playing fields, parkways and, where necessary, allotments.

3. As regards road communications, through routes should be provided clear of building development, but all centers of population should keep commodious ways open, giving easy access to the outside and connecting with these through routes.

4. The space about buildings must be increased and site coverage kept down to specified maxima, varying according to the use to which the buildings would be put. The minimum distance between residential buildings, or blocks of buildings, should not be less than 30 feet, kept free of all obstructions such as offshoots or sheds, and with regard to industrial buildings, the minimum distance should be 40 feet.

5. Concentration of family units in blocks of flats should be discouraged, but if unavoidable, then such flats should be surrounded by wide open spaces and a strict limit to their height imposed to avoid blocking roads or footpaths by débris resulting from possible collapse.

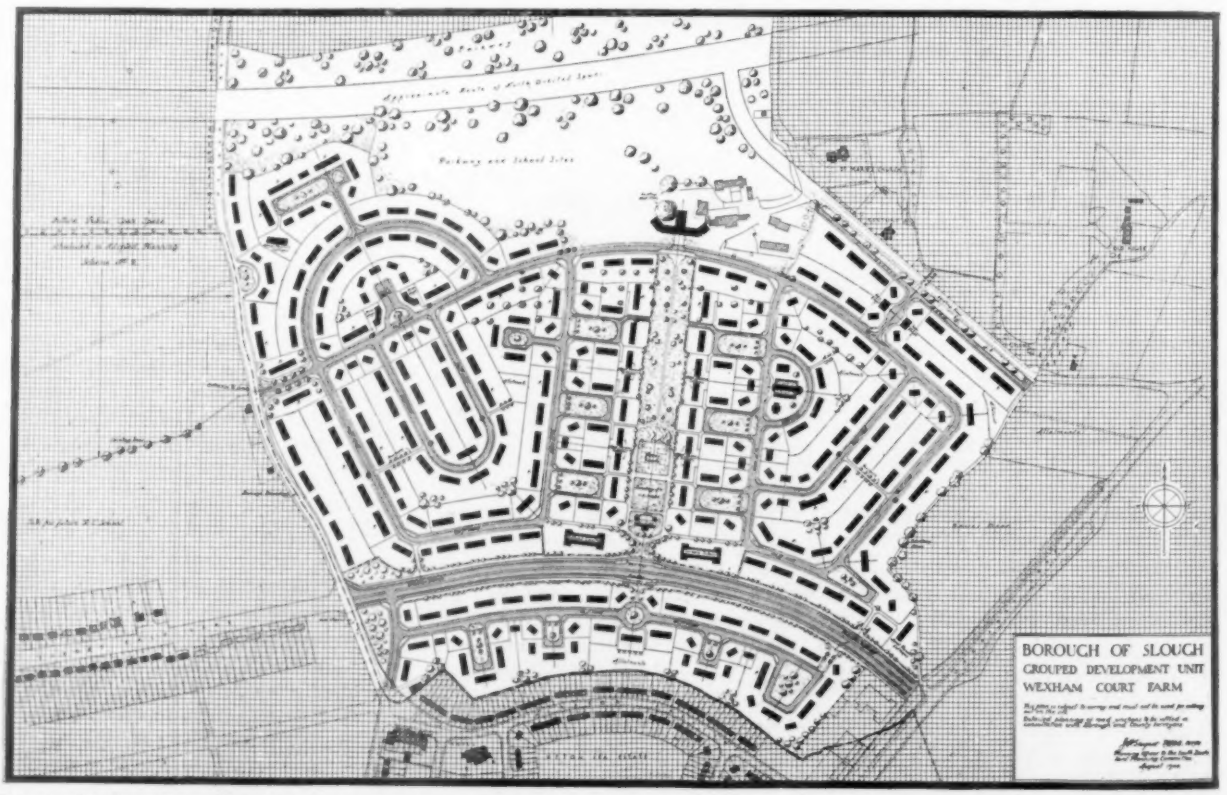
6. Deep building lines should, wherever possible, be prescribed for the same reasons.

7. The value of the preservation of trees and the planting of groups of trees as a screen from observation from the air should not be overlooked.

Wexham Court Farm covers 125 acres, and has 989 houses. As is shown on the plan, a main through-traffic road passes through the southern part of the development. From it there is no vehicular access to the northern main part of the development, but there are five pedestrian entrances, the principal one of which leads to a central mall, 50 yards wide and 300 yards long, which runs north and south through the project.

To the north of the mall are school buildings and a park. Along its southern end, near the through-traffic route, are a full-size bowling green, two tennis courts, a pavilion, a social center and a nursery school.

Shops are located in the center of the semi-circular treatment in the northwest of the development, and at its northeast entrance. Shops already existing will serve the portion south of the through-traffic road.



Plan for Wexham Court Farm, a Housing Development in England, Which Fulfills Both Planning and Air-Raid Precaution Requirements

"Powerful Instrument in Handling Emergencies"

Antenna

Radio for Transit Trouble

By E. F. Helfrich
General Superintendent of Maintenance,
Department of Street Railways, Detroit, Mich.

Transit Inspector

A TWO-WAY special-emergency RCA radio system was licensed by the Federal Communications Commission and installed in 1940 on 31 inspection automobiles, line trucks, and wreckers of the Department of Street Railways of the city of Detroit. The emergencies are the saving of life or important property and not routine matters such as dispatching extra equipment.

The new radio system consists of a 250-watt main transmitter and 31 mobile stations. The transmitter, operating on 31,460 kilocycles, is located in the Emergency Dispatcher's office on the 37th floor of the Barlum Tower in downtown Detroit. The antenna is on the roof, 500 feet above street level.

The mobile transmitters are 15-watt. Twenty are in vehicles of service inspectors having charge of transportation in their districts. These service inspectors are sent to the scene of any emergency reported to the Emergency Dispatcher, who takes care of all cases of trouble on the system. His office is equipped with Bell telephones, telephones connected to the telephone system of the Detroit Police Department, a telephone connected to the system of the Detroit Fire Department, and a fire-alarm recorder which receives all fire alarms turned in to the city department.

Such emergencies include accidents involving Detroit Street Railway equipment, fires on rail or bus lines, derailments, broken wires, persons taken ill or injured while on the Department's vehicles. The service inspectors have full authority to take steps to clear up any trouble and, on arriving at the scene, may use the portable radio equipment to request aid such as police patrols, ambulance, or wreckers.

The radio equipment on the wreckers permits them to be dispatched wherever they may be. Before the installation of this system, wreckers would be sent on long runs, only to find, upon arrival, that the situation had been cleared through some other means. At present, the service inspector reports "all clear" as soon as the trouble is over, and if the wrecker has already been dispatched, it is instructed to return to the station, or is sent to some other location. Hundreds of miles of running time have been saved in this manner, in addition to the convenience of having the wreckers available for service during the time they are returning to the stations.

This two-way radio system is a powerful instrument in the handling of emergencies. A service inspector can be sent to any location in the city, and a report will be received by the emergency dispatcher in a matter of minutes, and action can then be taken in accordance with the facts.

Two-Way Instrument in Car, and the Dispatcher's Room of the Detroit, Mich., Department of Street Railways

In Time of War Prepare for Peace

A Definite Program of Urban Rebuilding Would Maintain Physical Production at High Levels

By HOMER HOYT

WHENEVER a great crisis in our nation has arisen, the American people, by a powerful exercise of the national will, have mobilized our resources to preserve our national strength and unity. What is the emergency that now confronts the American people in addition to increasing the speed of our defense preparations? This present urgent need is that we map out a program now for the internal reconstruction of this country which will go into operation as soon as the defense program tapers off, and which will protect us from any possible let-down in the physical volume of production after 1942. A national home-building program, the rebuilding of our blighted areas, and modernizing all our industrial equipment and machine tools, will insure the continuance of our present record-breaking level of industrial activity. It will increase our national income to $100,000,000,000 a year or more, without inflation.

This program I have in mind involves unleashing the forces of private enterprise; it is not a plan for spending more billions of dollars by the Federal Government.

Some Pertinent Questions

What is needed to get this program under way at the proper time? Do we lack natural resources? Is this country a Sahara Desert? No. We have the four aces in natural resources — oil, coal, iron, and rich agricultural land.

Do we lack the capital equipment for developing these resources? No. We have the greatest rail, automobile, and air transportation network in the world, and the largest and most efficient factories for turning out vast quantities of manufactured goods for the purposes of war or peace. We originated mass production by the moving assembly line and we started the industrial processes of large-scale production that have been copied by foreign dictators.

Do we lack inventive ability or man-power? No. We still have 8,000,000 persons unemployed of whom as many as 6,000,000 may be absorbed by the national defense program. When we have built our two-ocean navy and built up our inventories of munitions and guns for the army, and when we have manufactured the requisite number of airplanes, we can then release a large number of men from external defense to internal reconstruction, provided, of course, we are not directly engaged in the World War. Sooner or later, however, the shift will be made from the peak load of effort for national defense to internal reconstruction and home building, and, as we have seen, we have abundant raw materials for building, in the form of clay, sand, lumber, and iron ore, we have the man-power, we have the factories, and the organizing ability.

What then is lacking? What prevents us from putting forth our natural abilities and of doing the job which lies before us? Are we doomed by the real estate cycle? No. The real estate cycle is not a natural law like that of gravitation. It is merely a register of the combined action of the home-building activities of the nation, and it can be changed by deliberate national policy.

Is the declining birth rate a bug-a-boo? No. *Are all our people past the reproductive age?* Certainly not. Small families are the result of conscious control because parents lack confidence in the prospects for their children in the future.

Are higher and ever higher real estate taxes inevitable? No. These taxes can be reduced by economy in municipal expenditures, by elimination of unnecessary municipal functions and by curbing the unlimited trend towards decentralization which compels the furnishing of expensive municipal services over a widely scattered urban development.

Is the blight of old neighborhoods necessary? No. This again is largely a matter of neighborhood morale. Areas with buildings that are physically sound disintegrate because people lose interest in maintaining property standards.

Finally, is a decline in our national income and wages inevitable? No. We have the potential productive power of creating a national income of over $100,000,000,000 a year.

Team Work and Confidence Can Do the Job

None of these factors dooms us to paralysis or national defeat; all can be changed by a conscious effort of the will. We have the greatest players in the world; what is needed is teamwork and the confidence that we will inspire by undertaking a definite program of rebuilding the home areas of this country and of modernizing our factories which will maintain our physical production at present levels for many years to come.

There are bottlenecks to remove, such as excessive hourly rates for union labor in some localities, which reduce the annual wage of even the particular laborers involved, and the amount of work available for all building labor, and which prevent a great home-building industry from reaching an output of 1,000,000 new houses every year. There are bottlenecks in the form of building-material monopolies.

But all the numerous negative factors that are holding us back will dissolve like mists in the morning sun if we adopt a national reconstruction program that will arouse the enthusiasm and unleash the energies of all the people in this country. It is the function of the Government to remove the bottlenecks. Even as all of us fall into line with the program laid down by the necessities of national defense, so all of our people, laborers, capitalists, farmers, and professional men, will cooperate in a comprehensive program for rebuilding this nation, when a great national private enterprise program is formulated and made clear to them.

Such a program is of vital importance in energizing our people by giving them a conscious purpose in life. A nation can disintegrate internally for lack of a dominating purpose. There is grave peril in the feeling that we are in the grip of forces over which we have no control. Such an attitude is as dangerous to victory as the attitude of a team that goes on the field feeling that it has no chance to win. We do not want the over-confidence that causes booms, nor the lack of confidence that spells defeat, but the quiet confidence that causes us to exert our best efforts for the welfare of the United States.

Beauty Pays American Cities

By Allan Sherman

BEAUTY in the abstract may be a purely intangible asset, but beautifying a community pays practical dividends to its residents—dividends in the form of increased public safety and better health; in the form of rising real estate values; increased tax revenues; and the attraction of tourist trade to spots formerly avoided because of bad roads or other unattractive conditions.

The practical value of beauty in terms of cleaned-up waterfronts and swamplands, in terms of scenic drives, park areas and public beaches, azalea trails and arboretums, already has been realized in many communities as a result of WPA programs designed to make them more attractive places in which to live.

Figures recently made public by the WPA, cumulative from July, 1935, through December 31, 1939, show that the appearance as well as the safety of cities has been improved by the construction or improvement of 50,000 miles of streets and alleys; the construction and improvement of more than 20,000 miles of sidewalks and paths in towns and rural areas; the creation of 1,300 new parks and the beautification of 5,500 parks already in existence. Band-shells and outdoor theaters have been built in many of these parks, and approximately 700 ornamental pools and fountains have been built or improved by WPA labor. Landscaping in the cities and in rural areas has been done on an extensive scale, the work including the completion of 49,000 miles of roadside landscaping and 78,000 acres of incidental landscaping to enhance the beauty of public buildings and grounds.

The removal of 1,200 miles of unused street-car and railroad tracks has added another note of improvement to many communities, as has the removal of unsightly buildings and dumps along the river banks of cities and towns. More than 3,100 miles of river-bank and shore improvements have been

PHOTOGRAPH BY COURTESY OF WORK PROJECTS ADMINISTRATION

Left, top and bottom—A swamp in Southington, Conn., straightened and graded, thereby eliminating several acres of mosquito-breeding area in the center of a highly populated section of the town.

Right, top and bottom—In Beaufort, S. C., on one side of North Street, a swamp stretched far into the town before a part of it became Danner Lake, with a rock-paved bottom and sides, and a park surrounding the lake. WPA landscaped the grounds and planted many palmetto palm trees, oleander bushes and flower beds in the park.

completed by the use of relief labor during the past five years.

Increasing the desirability of cities and towns as residential centers is important. It is particularly important to the future of our large cities in view of the recent population trend away from these areas because of unattractive appearance, lack of play space, and, in some cities, lack of healthful conditions and opportunities for normal development of children. The WPA beautification program in many cities has tended to check this outflux of home-owners, with its resultant loss in taxes and consumer buying power.

How It Pays

Planned beautification of cities and towns is often looked upon as "non-essential" work by those who do not see beyond its immediate intangible value to the indirect benefits of a practical nature that result. The dollar-value of a tree or a public park is not obvious, hence its usefulness is often overlooked by those who insist upon dollar returns for the dollars spent on public works. But in time, the value of these improvements becomes apparent to everyone. The improvements in a public square which involves widening of streets, the erection of direction signs and the addition of a parkway, may be termed a "beautification project," but it also pays. The improved traffic conditions attract visitors and trade to the area. The family with children, hunting for a conveniently located house or apartment, will move "near the park."

In Queens, New York City, WPA workers on a part of a vast cleaning and grading project that was to cover five boroughs, cleared débris from vacant lots and cleaned up a river bank. Low areas were drained and filled. A new concrete wharf was built on the improved waterfront. As a result, construction has picked up in these areas; more business has been attracted there. Property once considered of little worth has now become highly desirable. Real estate values are reported to be rising since the carrying out of the improvements.

Along Cleveland's lake front,* a five-mile strip that formerly was a no-man's land of industrial waste, has been converted into an impressively beautiful lake shore development. The improvements include a landscaped boulevard, a large recreation area, known as Kirtland Park, at the half-way point along the drive, and beautiful horticultural gardens, built by the WPA for the Cleveland Exposition and enlarged now as a permanent garden spot.

In Memphis, Tenn., a $2,000,000 street improvement program illustrates graphically the companion benefits of this safety-and-civic beauty effort. Under this program, utilizing a great group of WPA workers, most of whom are unskilled, the city has eliminated traffic hazards, provided or beautified boulevards and parkways, built concrete curbs and gutters and repaved many of the streets that were in disrepair. Public convenience and comfort has been well served, and both time and lives have been saved by the improved system of streets and highways in and around the Bluff City.

Dubuque, Iowa, has rapidly become one of the principal tourist stop-overs in the Mid-West following the construction, with WPA assistance, of a beautiful park and recreation area. High on the bluff overlooking the Mississippi, where Julien Dubuque and his Indian allies mined lead to be molded into bullets for the Colonials or militiamen of the Revolution, hundreds of tons of native rock have been fitted into a recreational area that is as American in its conception as was the Indian, the bison or the American eagle.

Eagle Point Park, comprising a large area of such wooded bluffs, commands an unobstructed view of the Zebulon Pike dam and locks, and the scenic splendors of Wisconsin and Illinois lying just across the river. Rock gardens, terraces, shelters, fireplaces, council rings, trails, steps, viewpoints, pools, waterfalls, are all here in abundance. Tennis courts, playground equipment, baseball diamonds, horseshoe courts, are among the recreational units which are amply provided. The Indian motif, carried throughout, the fittings, lights, furniture, and other equipment within the buildings, makes the place unique in the country, and at the same time harmonious with the native setting.

Beautification of the countryside between towns, particularly along the nation's arterial highways, is an equally important feature of the WPA program. Here, too, the practical purpose of the work is often overlooked by casual observers. Many who pass a WPA project of this type see only a group of men shoveling dirt, or planting seeds. "Boondoggling," some say. But these dirt shovelers and the seed planters may be doing a very necessary job of erosion control. Highway beautification is closely coupled with erosion control as well as highway safety. That is why this work has been so widely sponsored by county and state highway departments.

Massachusetts has had an extensive roadside improvement program under a special department headed by the Director of Roadside Improvements—an office created after WPA cooperation made possible the prosecution of a state-wide program. "Groups of men put to work by the WPA under the supervision of the Department of Public Works," reported the *Boston Post*, "have cleared the roadsides of dead trees, brush and other undergrowth and have moved many trees interfering with vision of motorists on curves and at other danger points. In one case where the roadside has been sodded and erosion prevented . . . it is estimated the maintenance cost will be reduced from $3,000 to $2,000 annually."

In New Orleans, the beautifying process is less concentrated but equally impressive. Practically every important thoroughfare has been repaved or is in the process of repair. The dilapidated wharves along the waterfront have been replaced by more than eight miles of safe and adequate concrete docks. A swampy morass has been transformed into a beautiful city park. Its unsanitary and unsightly open drainage canals have been largely replaced by closed concrete box culverts, and these in turn have been further hidden by beautifully landscaped neutral grounds. The wasteland along the shores of Lake Pontchartrain has been reclaimed, and many other improvements have been made to one of America's oldest and most charming cities.

* See THE AMERICAN CITY, August, 1939, page 51.

Seeking Economical Insurance

By F. S. Dauwalter
Assistant General Manager,
National Board of Fire Underwriters

IN his article, "Reducing Municipal Fire Insurance Costs: A Program of Action," Earl D. Mallery, Executive Director of the American Municipal Association, makes a number of sound recommendations; but his article lacks data to support his declaration that "the cost of insuring municipally-owned risks against fire is exorbitant." *Exorbitant* is an extravagant word. It is true he refers to some "studies by the American Municipal Association covering approximately 500 cities in 10 states," but nothing in the paper appears to define the scope of these studies or to show the premises on which they were based.

The shirt I am wearing cost me $2, but I know that the cost of the cotton in that shirt did not exceed 9 cents. Would I be justified in assuming that the price I paid was exorbitant?

The cloth in my suit of clothes cost me $20, but I paid a tailor $30 to make it up into a suit. Was I charged an exorbitant price? I don't know, but I do know that I can't get a tailor to make a suit the way I want it made for any less.

The cost of $10,000 of fire insurance on my home is $16 a year. Is that too much to pay to safeguard my investment? If my home should burn tonight, I would reckon the cost as cheap, especially if I compare it with my tax bill, which amounts to $300 a year. A reduction of only 5 per cent in my taxes, by the way, would pay the total cost of my insurance. What do I get for the taxes I pay? Among other things, I get police and fire department protection. But if my house should burn, it would be my loss except for insurance. My home was robbed last year and the police department failed to apprehend the housebreakers. I paid for police protection, but the loss I sustained was mine none the less.

In order to get the total cost of fire insurance in relation to other matters, let me point out that total fire insurance premiums collected throughout the United States by 329 capital stock fire insurance companies during 1939 amounted to only $445 millions, but Federal excise taxes alone on tobacco amounted to more than $600 millions, and excise taxes, both state and Federal, on alcoholic beverages amounted to more than $1,200 millions. *The government of the city of New York in* 1938 *spent more than* $892 *millions, nearly twice the total fire insurance premiums collected by* 329 *capital stock fire insurance companies throughout the United States.* Should I assume from this that government is extravagant with public money to the point of wastefulness?

But let us seek to avoid indulging in charges and counter-charges. If we do, we can get a lot further in analyzing this question of the cost of fire insurance on municipal property or, for that matter, any other kind of property. In doing this we should understand, first of all, that it is the *cost* of insurance we are concerned with primarily, and that the *cost* of insurance may be excessive even though the *rate* is not open to criticism. For the purpose of this discussion, therefore, let us avoid referring to "classification" and other technical factors entering into the process of rate-making.

As a first step, Mr. Mallery recommends that the property to be insured be appraised by a competent appraiser. That is absolutely sound. The value of property forming the subject of insurance should be known as accurately as possible.

Having determined the value of the property, the next logical step should be to seek the advice and counsel of a competent insurance agent (or broker) or a group of agents.

I have not been sick in years, but the fact that I enjoy good health does not qualify me by any means to analyze my own physical condition. I go to a doctor at least once a year for that purpose, and I want a doctor that I know is good, one in whom I have confidence. Just any doctor is not good enough. Furthermore, I attach some value to having my physical condition analyzed by the same doctor from year to year. He maintains a record which tells him the history of my case. My blood pressure may not be high enough to create cause for alarm when measured by ordinary standards, but if it is considerably higher than it was last year it may be an indication of trouble. By the same token there is considerable value in having my insurance needs analyzed by the same individual or group of individuals from year to year because of the continuity of knowledge that it affords.

An analysis of a city's insurance requirements should be complete in every detail. It should include, first of all, a consideration of the types of insurance needed. Some must be regarded as essential if the hazards insured against are capable of producing serious loss, no matter if the hazard may be considered remote. The fact that loss due to a given peril may be unlikely to occur is reflected in the low rate charged for insurance against that peril. In consequence the selection of hazards to be insured against should be based solely upon the extent of loss or damage which they might produce.

Some types of insurance should be classed merely as desirable rather than essential, even though the frequency of loss may be greater, but all should be considered in any attempt to analyze intelligently and carefully the insurance requirements of a municipality. Consideration should be given to the advice and recommendations of competent insurance counsel in this respect.

Besides selecting the types of insurance to be carried, a competent analysis will also recommend the best form of coverage to be used in writing the insurance. "Specific" insurance (which specifies a stipulated amount of insurance on a given piece of property) may be desirable in some cases. In other cases "blanket" insurance covering several properties under a single amount may offer many advantages. The advisability of writing the policies subject to co-insurance should not be overlooked, and the term of years for which the insurance is to be written may also be an important factor in reducing insurance costs.

No analysis would be complete without an analysis of the rate applying to each of the properties insured and the report of a competent engineer on factors affecting the rate. The rate analysis sets forth in detail the charges for existing hazards that have been added to the basic rate. Some of these hazards may be inherent in the property. Others may be corrected at slight expense for which the saving in insurance cost will more than compensate. Still others may be removed without involving any monetary outlay for structural improvements. More often than not a substantial reduction in the cost of insurance may be effected by following recommendations that are comparatively simple, but until an analysis of the rate is made there can be no means of knowing whether it is higher than need be.

Competitive Bidding

More often than not a complete analysis of insurance requirements will produce a substantial reduction in cost, more substantial, in fact, than any which may be obtained through a process of competitive bidding that relies solely upon competition instead of elimination of those needless hazards which enter into the cost of insurance.

In saying this we recognize that it is general practice for public bodies, in purchasing either services or supplies, to rely upon competitive bidding. In all such cases, however, when bids are called for, the quality of the supplies or services sought is clearly defined and all price bids submitted are based upon these specifications. In calling for competitive bids on insurance, however, usually no attempt is made to define the quality of insurance sought. Price alone, however, should not be considered to the utter disregard of quality in purchasing insurance or, for that matter, anything else. It cannot safely be assumed that all insurance companies submitting bids are equal in their financial ability to meet future obligations. Nor is it safe to assume that because an insurance company is licensed to do business in a given state, it possesses financial responsibility equal to that of any other company that is also licensed. In licensing an insurance company the state does not guarantee its financial responsibility. The issuance of a license signifies only that the company has complied with the *minimum* requirements specified by statute in that state, but many companies that are licensed may possess financial responsibility in proportion to the risks they have assumed that may be five, ten or one hundred times as great as the minimum.

Security of indemnity is the sole object of insurance. The purchaser of insurance, therefore, cannot afford to ignore this factor of security by devoting his attention only to cost. If it is felt, as a matter of prudence, that competition should play a part in the purchase of insurance, analyses of the city's insurance requirements may be requested from more than one competent agent or groups of agents. This will produce a type of competition guaranteed to provide the city with maximum insurance protection at a minimum of cost.

Until the buyer of insurance, whether he be an individual or a municipality, has exerted a real effort to place his insurance program on a sound and economical basis, it is idle to charge that insurance rates are "too high." Time after time the treatment of insurance problems just outlined has resulted in reductions in premium cost ranging from 10 per cent to 50 per cent without alteration of the basic rate structure.

In some instances insurance is carried for amounts greatly in excess of appraised values, and often there is a duplication of policies written by competing agents on the order of some public authority who has lacked an adequate control of details. Such waste and inefficiency can be eliminated only if insurance is placed through a single agent or group of agents capable of giving competent counsel and of guiding the city government's insurance purchases with maximum efficiency.

Let us keep in mind that the "cost" of fire insurance may be excessive if wasteful methods are employed in its purchase, even though the "rates" at which it is written might be low enough to satisfy the most critical buyer. Control of buying procedure is in the hands of the buyer. Thoughtful use of that control frequently can effect surprising reductions in cost, and it is reduced "cost" rather than lower "rates" that Mr. Mallery and other critics of the insurance business really have in mind.

Inter-American Congress of Municipalities to Meet September 15-21, 1941, in Santiago de Chile

As pointed out in the official announcement of this meeting, the Second Inter-American Congress of Municipalities will bring together the urban peoples of the western world for discussion of the rapidly increasing number of problems in which they have a common interest.

Under the auspices of the Pan American Commission on Intermunicipal Cooperation, national unions of cities have been organized or reconstituted in several countries, and organizing committees are at work in others.

The various unions of cities, organizing committees, and others interested in the movement have been carrying on active collaboration through the secretariat in Havana, which issues the Commission's Bulletin and will shortly distribute the program and regulations governing the conduct of the Santiago Congress.

The meeting of the Second Congress will take place at the same time as the festivals celebrating the Fourth Centennial of the illustrious municipality of Santiago. The Republic of Chile and the Municipality have made extensive arrangements for the entertainment of the Congress, and for the convenience of the delegates who attend it.

The Director General is Gustavo Gutiérrez, and Carlos M. Morán is the Secretary, both of Havana, Cuba.

Local Government Is News

More About the Taxpayer and His Dollars

By PHILLIPS BRADLEY

LAST month, some of the ways of making the tax-dollar come alive to the citizen were suggested. Charts and graphs, showing how the tax-dollar is spent for services, or indicating trends in expenditures over several years for a single function, were illustrated.

But there are other things which alert public officials can do in the annual financial report and otherwise. One way to make the citizen conscious of what he is getting for his money is to let him see where the money goes in relation to his own home. The New York City Tax Department indicates what the average homeowner receives in the way of services from the taxes which he pays.

Another way to show the citizen what he is getting for his money is to give him a chance to compare his costs for particular services in his own and other cities. Palo Alto, Calif., owns its utilities and saves its citizens enough to more than cover other city taxes. The comparison shown is with ten other representative California cities.

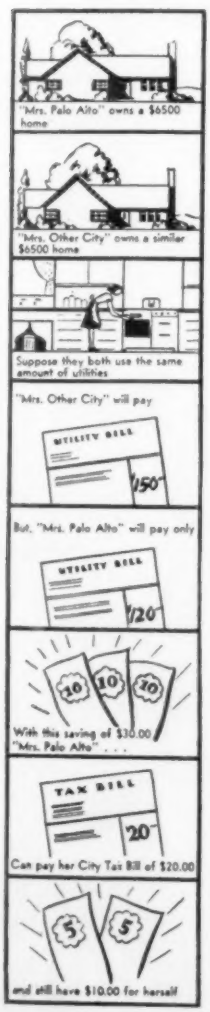
But the annual report comes to the citizen only once a year. For eleven months out of the twelve, he is not as conscious of the services he is getting as he is of their cost. Why not keep the taxpayers—and the citizens who don't pay taxes as well-informed of the fiscal-functional activities at City Hall?

A good many municipalities, large and small, are developing an excellent public-relations device in leaflets, regular or occasional, which tell the city's story from month to month. The Treasurer of Royal Oak, Mich., proves "Your Best Buy Is Municipal Service: No Sales Tax or Profits in These Essential Services," by illustrating the tax-dollar on an antique check, and a canceled tax bill. This little 4-page leaflet shows on the inside pages the per-month and per-year cost of the major services at different property valuations.

Various types of publications about the tax-dollar are appearing in increasing numbers. The front pages of

(*Continued on page 87*)

PUBLIC UTILITIES



SURVEY SHOWS THAT PALO ALTO HOMEOWNER SAVES MORE ON UTILITY BILLS THAN HE PAYS IN CITY TAXES

This saving is based on a comparison of rates charged for identical service in ten other representative California cities, three of which are located on the peninsula.

The amounts in the above sketch are average costs taken from a survey of 240 separate utility bills and tax bills for a representative number of average Palo Alto families.

YOUR CITY-OWNED UTILITIES

Palo Alto's present utility system was started in 1896 when residents found that by drilling wells and pumping water in "wholesale" quantities the cost was much cheaper than if each resident drilled his own private well.

Later on this theory of wholesale buying and community ownership was carried still further. By 1917 the citizens owned all the local utilities and operated them as a separate function entirely apart from the other normal activities of city government.

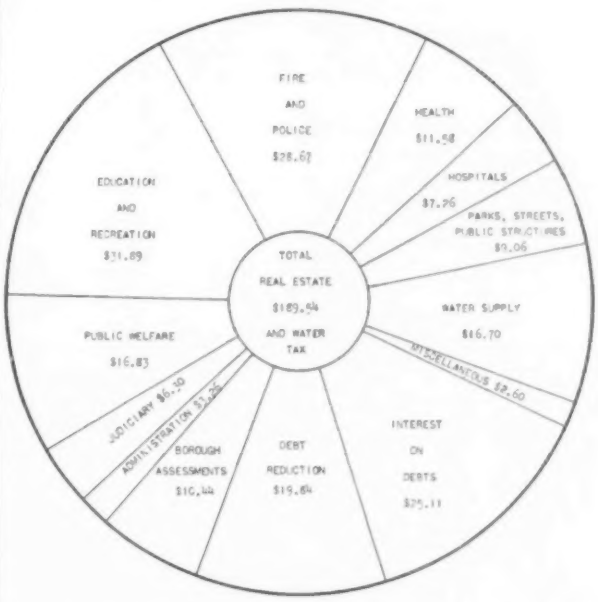
Community ownership of utilities has made possible two unusual benefits which are enjoyed by the residents of this city.

1st **Utility rates have always been lower here than in most other California cities.**

2nd **Even though the rates are much lower the system still has been able to earn a profit which it turns over to the General Fund of the city at the end of each year. This profit has made possible many extra municipal services which otherwise would not exist.**

DISBURSEMENT OF 1938 TAX OF HOMEOWNER

(Details of the Bill for Services Rendered)



Value of Average One Family Home in New York City (excluding Manhattan)		$5,800.00
Taxes Payable		
Basic Levy on Real Estate	$162.40	
Borough Assessments	10.44	
Water Supply	16.70	
Total Taxes on Property		$189.54

Above—New York City's "Disbursement of 1938 Tax of Homeowner" illustrates one type of "pie" chart in which total tax collected is broken down for the different services rendered to the homeowner.

Left—The Palo Alto, Calif., homeowner sees just how well off he is as compared with living elsewhere.

ID-6 For real Diesel economy and performance, choose the International ID-6, shown here with road grader.

5 NEW INTERNATIONAL Industrial WHEEL Tractors

• HERE ARE International Harvester's five *brand-new* International Industrial WHEEL Tractors. These "I" Tractors, added to the line of International TracTracTors and Power Units announced in 1940, make *standardization* on International Industrial Power *more profitable than ever.*

Three of these new "I" models have carburetor-type engines—two have quick, easy-starting, *full* Diesel engines. They are streamlined, efficient, economical—ready to cut costs to the bone on a wide variety of jobs.

Contractors, counties and townships, cities and villages, airports, parks, cemeteries, golf courses, railroads, public utilities, factories, lumber and building supply yards, etc., will find these new Internationals useful and economical on a wide variety of construction, maintenance, materials-handling, and transportation work.

All of these tractors have Tocco-hardened crankshafts, pressure lubrication, replaceable cylinders, five forward speeds up to 15 m.p.h., gear drive, countershaft brakes that can be individually controlled or interlocked, provision for mounting a variety of allied equipment, and many other features.

See these tractors at first hand. Ask the nearest International Industrial Power dealer or Company-owned branch for full details.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago, Illinois

Equipment the "I" Tractors Will Handle in the Construction Field:

Maintainers and graders; front-end shovels and loaders; cross-walk, side-walk, and other types of snow plows; road rollers; cranes and hoists; winches; brushes and sweepers; disk harrows and mixers for mixed-in-place roads; scrapers; dump wagons; trailers; tampers; mowers; etc.

"I" Tractor Facts

I-4—4-cylinder valve-in-head gasoline engine. Bore and stroke 3⅛ x 4¼ in. 5 forward speeds up to 15 m.p.h. Develops 29.5 engine h.p. at 1,650 r.p.m.

I-6—4-cylinder, valve-in-head gasoline engine. Bore and stroke 3⅞ x 5¼ in. 5 forward speeds up to 14 m.p.h. Develops 40.5 engine h.p. at 1,450 r.p.m.

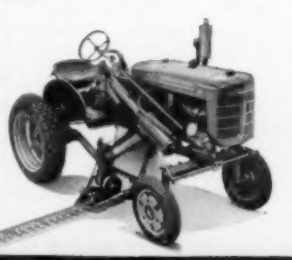
ID-6 DIESEL—Quick-starting, 4-cylinder, compression-ignition, 4-cycle Diesel engine. Bore and stroke 3⅞ x 5¼ in. 5 forward speeds up to 14 m.p.h. Develops 38.5 engine h.p. at 1,450 r.p.m.

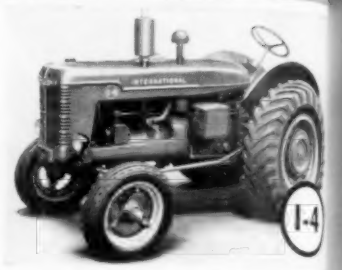
I-9—4-cylinder, valve-in-head gasoline engine. Bore and stroke 4.4 x 5.5 in. 5 forward speeds up to 15 m.p.h. Develops 54 engine h.p. at 1,500 r.p.m.

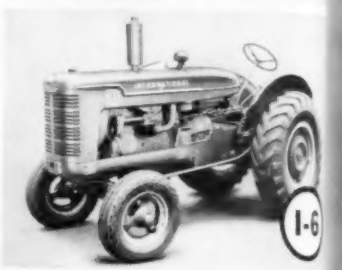
ID-9 DIESEL—Quick-starting, 4-cylinder, compression-ignition, 4-cycle Diesel engine. Bore and stroke 4.4 x 5.5 in. 5 forward speeds up to 15 m.p.h. Develops 51.5 engine h.p. at 1,500 r.p.m.

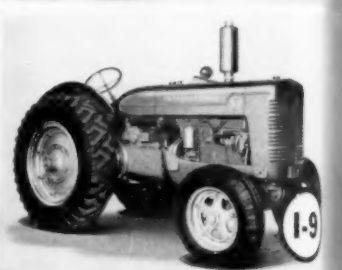
...and in the New INTERNATIONAL-A HIGHWAY MOWER

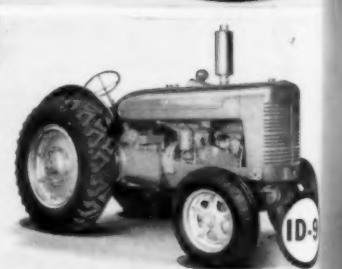
• THIS NEW side-mounted mower cuts a 5-ft. swath at mowing speeds up to 6 m.p.h. Cuts at any angle from 90° above horizontal to 45° below horizontal. Enclosed, heat-treated gears run in oil bath.











INTERNATIONAL Industrial Powe

Asphaltic Oil Mat Construction by Ashtabula, Ohio

Mileage Extended 27 Feet Wide with Concrete Curbing

By R. W. Logan
Superintendent of Streets, Ashtabula, Ohio

THE city of Ashtabula paved 5.33 miles of streets during 1939, about ½-mile of this being a 6-inch reinforced concrete pavement, constructed 5½ feet wide on either side of an existing 16-foot brick pavement. The rest of the paving mileage, 4.8 miles, consisted of an asphaltic gravel hot-mixed and hot-laid pavement, commonly called an asphaltic oil mat. This type of construction was continued in 1940 with the completion of approximately 2.84 miles.

In order to provide a completely serviceable street with proper drainage, storm drains and concrete curbs were installed along both sides of all streets being rebuilt. A trench 2 feet wide and the required depth was excavated on either side of the street; steel forms were placed and filled with concrete, forming a curb 6 inches wide and 18 inches deep. The forms were removed after the concrete had set sufficiently, and then moved ahead for the next pouring. A total of 600 feet of steel curb forms were used in this construction.

Roadway Construction

The next step was to excavate the roadway to a depth of 13½ inches below the established center grade. A trench 1 foot wide was then excavated along each curb to a depth of 36 inches below the top of the curb, a 6-inch vitrified clay land tile was laid in the trench and backfilled with coarse washed gravel. The tree lawn area was graded during this period of operation.

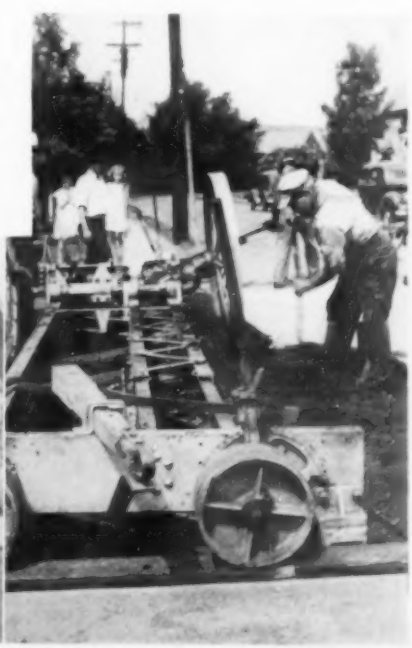
On the subgrade of the roadway a 2½-inch layer of gravel was spread and rolled with an 8-ton, 3-wheel roller. This layer was left for further compaction by traffic and after a few weeks an additional 2½-inch layer was placed in a similar manner. This was later followed by a third application of 2½ inches of gravel. After satisfactory compaction under traffic, a crew of men was employed to fine-grade the base and prepare it to receive the wearing surface.

Wearing Surface

The wearing surface is composed of a mixture of native gravel, lake sand, limestone dust and asphaltic oil. The gravel, sand and limestone dust are heated to a temperature of 220° F. in a rotary dryer to remove all moisture before mixing. The aggregate is then mixed in a twin pug-mixer, first charging the gravel, followed by the sand and finally the limestone dust. All these materials are measured separately by weight, then 5 per cent by weight of asphaltic oil is added to the mixture. The oil is previously heated to a temperature of 175° F.

The hot-mix batch is delivered to the street in tight body trucks, deposited and raked into place either by hand or mechanically to a depth of 3½ inches. After the mixture is thoroughly cooled, it is rolled with a 10-ton tandem roller until there is no movement under the rolls. This results in a paving mixture, after compaction, 3 inches in thickness. The pavement is then opened to traffic. To insure

Spreading Hot Asphaltic Oil Mat Paving by Machine in Ashtabula



A BARGAIN IN BETTER PAVING for

Street Depts. Park Boards and Highway Depts.

The Spreaderoller stops only a few minutes for loading. Only two pieces of equipment—an asphalt distributor and a Spreaderoller—will give you low cost, durable, glare-less pavement and minimize maintenance costs.

Surface can be used right after treatment. Only 10′ of street or road are out of use at one time.

the Universal "Chip Top" Spreaderoller

With a road oil distributor and one of these machines you can put down more miles of seal coat pavement of extremely durable quality at amazingly low cost. You can *surface* or *resurface* residential streets, park drives, alleys, parking areas and airports with a tough, water repellent, traffic resistant wearing course.

The Spreaderoller segregates the chips or aggregates, depositing the coarse size first, the smaller size next and the fines on top, filling the voids and sealing the surface against bleeding and moisture penetration. Cheaper, less carefully screened chips can be used and dust can be left in.

It rolls them simultaneously, compacting the surface so that it is smooth, firm and anti-skid. After one or two applications of cut-back asphalt, it's once over with the Spreaderoller and you have a long-lasting, glare-less surface at low cost. Traffic can be resumed at once; no annoying detours.

In fifty minutes actual working time, 4,750 lineal feet of roadway 10′ wide were paved recently with a Spreaderoller. They got better pavement, got it down faster, with less equipment!

Use the Spreaderoller on existing roads and streets or on new streets where suitable base course has first been put down. Use it, too, as a standard 10-ton roller on other asphaltic pavements. Send for operating data today! Let us show you what the Spreaderoller can save for you.

UNIVERSAL CRUSHER COMPANY, 642 C Ave. West, Cedar Rapids, Iowa

UNIVERSAL

CRUSHERS, PULVERIZERS, COMPLETE PLANTS, SPREADEROLLERS, PORTABLE ASPHALT PLANTS

a tight waterproof surface after the pavement has been in use one year, a seal coat is placed over the entire surface. This is obtained by spraying the pavement with ¼-gallon of asphaltic oil per square yard of pavement, followed immediately by a light covering of clean, sharp sand to absorb surplus oil and to prevent traffic from picking up oil.

During 1939 a total of 11,427 tons of this asphaltic gravel pavement was laid in Ashtabula, and in 1940 the figure was 5,833.

Design and construction of this type pavement were first developed in 1936 by the Division of Engineering under C. R. Stanhope, City Engineer. To date approximately 16 miles of streets have been improved in this manner.

Milford Tar Road-Mix Streets Improve with Age

Using Natural Sand-Clay Base of Roads, a Delaware Community Surfaces 4½ Miles

TAKING the soil as Mother Nature had provided it, in very good proportions of sand and clay for binding with a bituminous material, Milford, Del., in 1939 set out upon an ambitious program of road stabilization by road-mix on 4.5 miles of outlying streets. The improvement was immediately apparent but is much more so a year later, when rubber-tired traffic has thoroughly compacted the 30-foot streets into smooth waterproof surfaces protecting the stabilized foundations.

Preparation Important

The grade was prepared 4 inches deep with the scarifier on a power grader and then further pulverized to break up the clay by rolling with a 10-ton power roller and working with the blade until the sand and clay were uniformly distributed throughout the natural sand-clay mix. Great stress has been laid on the preparation of the soil to be stabilized, for if the material is not homogeneous and all clay lumps are not broken up, it is impossible to properly penetrate the mass with the bituminous binder.

Tar Binder and Mixing

With the material properly prepared to the full width of 30 feet, an application of ½-gallon per square yard of Tarvia B was made for the full width. The material which the tar had penetrated was then all bladed to the middle of the road, and ¼-gallon of the same binder was applied to the two sides, which were then bladed to the outside of the street. These three windrows were then flattened and spread uniformly across the road, and a third ¼-gallon per square yard of Tarvia B was applied for the full width.

This was followed by thorough mixing with the blade grader, working the material from side to side of the street until the binder was thoroughly incorporated throughout the entire mass of sand-clay mixture. Following the completion of mixing, the material was spread to a slight crown for the 30-foot width and sealed with ¼-gallon per square yard of the same binder. The material was not rolled before the seal, but was open to traffic at all times. After the seal was applied, ¼-inch chips were hand-spread over the entire surface as a blotter and rolled with a 10-ton Buffalo-Springfield 3-wheel roller and then immediately opened to traffic again.

This treatment provided dustless and mudless streets over the entire 4½ miles of the work, but the character of the work was not entirely apparent until after one year of continuous traffic, which rolled the material to a strong, smooth surface.

The work was done under the direction of Charles E. Banning, City Manager.

Diverting Major Traffic from Minor Streets

To the Editor of THE AMERICAN CITY:

I agree with Mr. Frederic A. Delano's suggestion that we permit general traffic to use too many streets, with the result that too many traffic lights have to be installed, and all traffic movement is slowed up.

Mr. Delano suggests that, in an ordinary rectangular, checkerboard system, every third street would be sufficient for main traffic movements. This would depend, in part, upon the size of blocks. In "Major Traffic Thoroughfares and Transit Plans, Lower East Side, New York City," published in 1932, we found that all through traffic could be carried on major streets 100 feet wide by using every second avenue and every fourth or fifth street. This is an intensively built up district. In other areas of less intensive development, greater spacing of major streets should be encouraged. This is already being accomplished by land subdivision control in the newly developing outlying sections of cities, and should be achieved in the reconstruction of central urban areas by large-scale housing projects. I would see no objection to even prohibiting traffic on some of the minor streets, at least for certain hours of the day, in the interest of preserving values.

The parking problem, as Mr. Delano suggests, is an entirely different matter.

HARLAND BARTHOLOMEW.
St. Louis, Mo., February 18, 1941.

CONNECTING the pipe and assembling the joints is an easy, fast and foolproof operation with U. S. Mechanical Joint Pipe, resulting in a bottle-tight line. We have on hand large stocks of mechanical joint, bell-and-spigot and flanged Super-de Lavaud centrifugally cast pipe, pit-cast pipe and standard fittings in plant and storage yards at strategic shipping points throughout the country.

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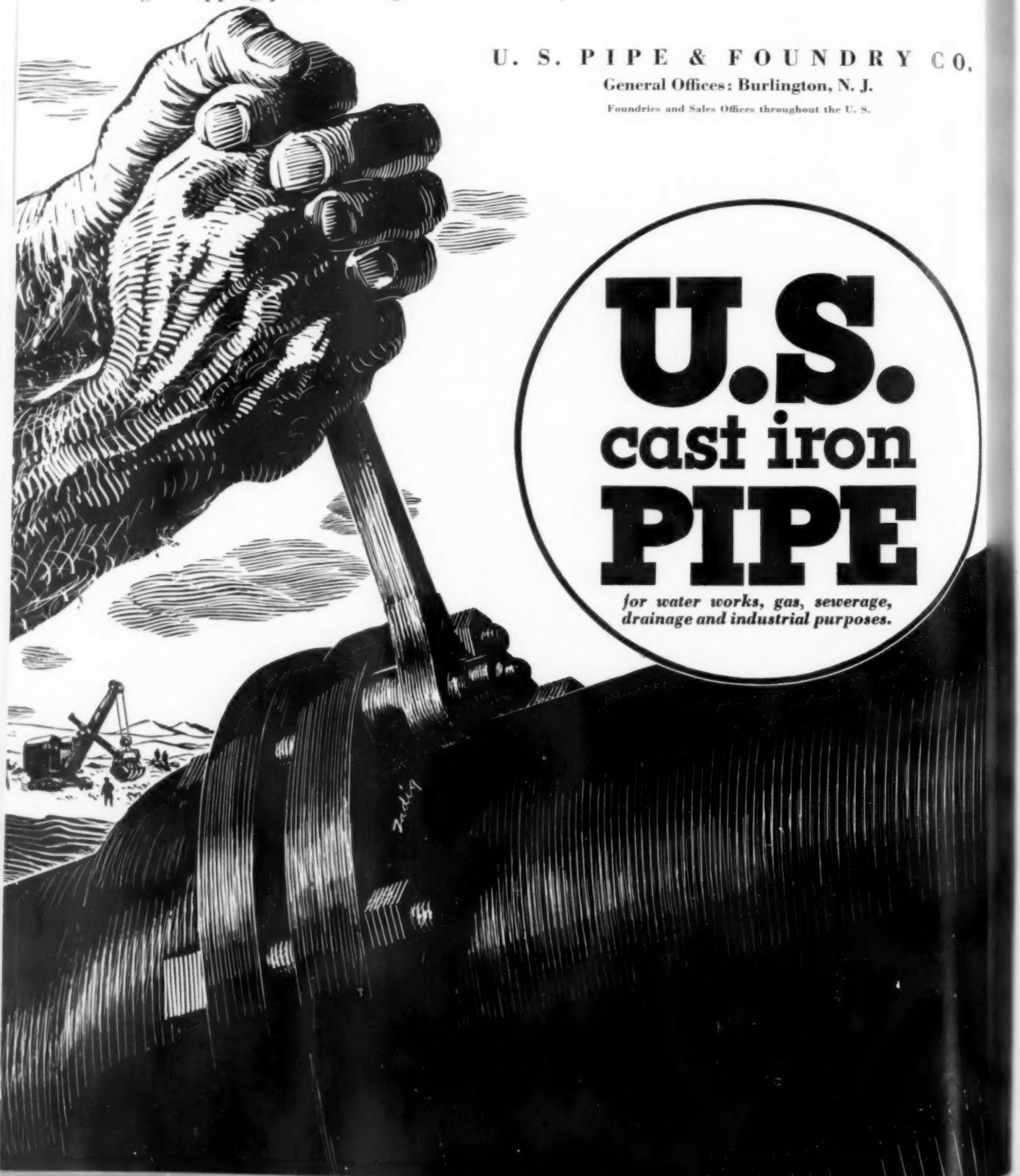


U.S. cast iron PIPE

for water works, gas, sewerage, drainage and industrial purposes.

75 Cities Report on Parking Meters

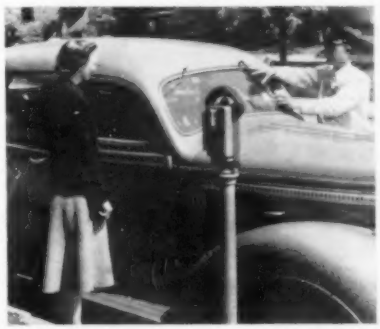
By Hugh G. Corbett
Secretary, La Crosse County Chamber of Commerce, Wis.

THE first very natural result which can be expected to follow a proposal for a trial installation of parking meters is opposition. An opposition such as was presented at the Council meeting last Thursday evening is quite natural. Similar opposition has occurred in every city now having meters. The facts are, however, that objections are generally overcome by giving the meters a trial. That is the strongest argument that parking meters have come to stay. They win the opposition by what they actually accomplish.

There is nothing strange in the opposition. We all oppose the new. That is human nature. Years ago we opposed the first steamship. We opposed the first railroad—doctors claimed that 30 miles an hour would stop the circulation of the blood. We opposed the telephone—business men called it a plaything and of no commercial value. We opposed the self-binder, and it took McCormick 20 years to sell the first 100 reapers. We opposed the sewing machine, and a Boston mob smashed the first machine on exhibition in that city. We opposed the automobile. Farmers and those who drove horses tried through legislation to stop motorists from traveling on the highways.

We might go on indefinitely showing that every new, worthwhile improvement to the human race was at first strongly opposed; so it is quite natural that parking meters should be opposed. Even the salesmen who sell meters came in for considerable criticism, and that too from men whose very jobs depend on salesmen. We always oppose the new until some salesman comes along and explains it. When we criticise salesmen, we jeopardize our own job, since they are really the fellows who make the wheels of industry go 'round.

If Congress ever decides on a Hall of Fame, one of the first tablets to be placed in that hall should



PHOTOGRAPH BY COURTESY OF DUNCAN METER CO., CHICAGO

Using a Parking Meter in Frostburg, Md., 6,000 population, where 170 Miller Meters Have Operated Since May, 1939

be a tablet to salesmen. The facts are, they have put more comforts into the home of the average working man than a king formerly had in his palace.

Until parking meters were invented, parking of automobiles on city streets had become an acute problem. The problem is still with us in many cities, but parking meters have solved this problem in many others. It will be cheaper for La Crosse to regulate limited parking with meters than without them. One policeman on a motorcycle or tricycle can adequately enforce limited-time parking regulations for all the meters La Crosse will need.

Parking meters in other cities result in an increase of 50 per cent in the number of automobiles parking in the congested commercial district. From the information we received from other cities, the out-of-town motorist is a big booster for meters, for they assure him a parking place in the downtown or retail district when he comes to town. The cities now using parking meters all wrestled with the parking problem, or meters would not have been installed. Practically all these cities installed meters on a trial basis. If the meters had not proved a success, not one of these cities would have parking meters today. The facts are, we find a number of these cities so well satisfied that they have installed additional meters.

Now to what extent did these meters iron out the parking problem? Did they merely create another parking problem, as the opposition claims? That question was asked by the La Crosse County Chamber of Commerce committee studying the parking problem. Here is a tabulation of the replies from 75 cities:

1. The parking meter has driven all-day parking from the street.

2. It has made available parking space for all who have legitimate business to transact in the business district.

3. It has relieved congestion and thereby has speeded up traffic.

4. It has practically eliminated double parking.

5. It has greatly facilitated deliveries of goods and supplies to the business establishments in the congested district.

6. It has forced those desiring to park for long periods off the streets and into commercial parking lots, thus putting more vacant property to legitimate use.

7. It has proved itself to be an efficient, impartial and thoroughly practical aid to parking regulations, requiring less police supervision than any other system.

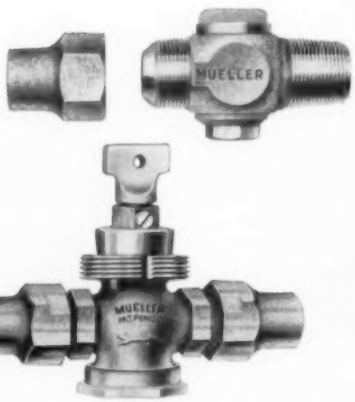
The foregoing statements were made, not by laymen, but by traffic and city planning engineers—men who have spent years in the study of traffic problems.

The first parking meters were put in service in the summer of 1935, just a little over five years ago. Today, 246 cities control their traffic problem with parking meters. By 1945 there will be 1,000 cities using parking meters to solve their parking problem. Parking meters are here, and here to stay, because they are performing the jobs for which they were invented.

Rugged as the Alps

Ruggedness is one of the many appreciated qualities of Mueller Water Works Products.

All Mueller Extension Service Boxes are designed with upper sections which slide freely up and down in the base. Frost may raise the shaft without disturbing the base, which, being enlarged at the bottom, is solidly anchored in place. When a truck or any heavy weight strikes the top of the box, the shaft slides down into the base and does not disturb the curb stop or service pipe. A strong phosphor bronze spring in the base holds the upper section firmly at any desired location.



Mueller Curb and Corporation Stops are offered in a variety of styles, patterns and end connections to meet the requirements of standardized water works practice. Generous metal thicknesses, precision manufacture and thorough testing provide for many years of satisfactory service.

Mueller Lead Goosenecks are standard connections for service work. Fittings are of red brass with extra heavy lead pipe, produced by expert lead workers and joint wipers.

MUELLER CO.
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What Size Litter Baskets?

In the United States We Do Everything in a Big Way, So We Make Litter Baskets Big Enough to Catch Everything

LITTER, or "scattered rubbish," as it is defined in our unabridged dictionery, is generally considered the small material that may be carelessly cast aside by pedestrians or motorists. This trash, which includes torn-up letters and circulars, candy and gum wrappers, empty cigarette packages and a host of other scraps of paper, makes up our daily contribution to street litter—and don't forget the shopping list, or the commuter's memorandum. Occasionally the ultra-careless citizen casts a whole newspaper into the gutter, but this is not the usual case; it is generally the small papers that clutter pockets and are carelessly cast away for the Department of Streets, or Street Cleaning, to dispose of for us.

Just what does the city usually provide to make it easier for us to be better citizens and not clutter our streets in a most unsightly manner? We are faced on the corner with a receptacle double the size of the home garbage can, either a wire affair or a sheet metal container which better conceals its contents and does not permit small bits of paper to escape back into the street. Our watchful scouts in several cities have checked on how these large receptacles are used, and have all reported the same thing: storekeepers and tenement dwellers are using them as refuse- and garbage-disposal points to save the cost of an individual container or the fee the city may charge for collection from a business establishment. At the same time these large catch-alls are not located sufficiently close to entice the pedestrian to hang on to his empty cigarette packages, or gum wrapper, long enough to reach the disposal receptacle. As the gutter runs all the way along every city sidewalk, it is too handy to miss, so the litter is tossed gutterwards.

What can we do to overcome all this? Dr. George A. Soper, internationally known sanitarian, has the right answer: "Small, numerous, inexpensive sheet metal boxes of ½-cubic-foot capacity, affixed to street-light poles, fences, buildings, and walls, or added to parking-meter standards, will relieve the gutter of most of its unwanted litter and not tempt the illicit user of the present large containers to use them in place of the municipal refuse collection system."

This suggestion will improve the appearance of our streets, reduce street-cleaning costs, and not add to the budget, for a dozen or two of such small litter boxes can be purchased and installed for the price of each larger one.

Proper design, placing and servicing are just as necessary for these small litter baskets as for our catch-all receptacles, and the public must be instructed in their use. Provide the utility, educate the public, and greater municipal cleanliness at lower cost will inevitably result.

Special Assessments for Reconstruction and Resurfacing of Streets

AN INCREASINGLY LARGE NUMBER OF CITIES are resorting to special assessments to raise funds for reconstructing and resurfacing their streets, the American Public Works Association reports after a survey of special assessment practices in 83 cities in 40 states and the District of Columbia.

"Reconstruction and resurfacing costs are becoming more and more important to cities as new construction declines with the gradual completion of their street systems," the Association points out:

> Special levies on benefited property for new construction have been the usual practice, but the cities have only recently been driven to such levies for reconstruction and resurfacing by the increasing expenditures for this work.
>
> More than half of the cities which can by law levy special assessments for reconstruction and resurfacing are doing so—35 cities levying for reconstruction and 29 for resurfacing. Almost all the 83 cities may levy special assessments for new construction, but only 62 are doing so. The extent of special levies for new construction has been curtailed in recent years as the result of Federal assistance.
>
> The use of special assessments for municipal paving work depends to a great extent on existing state laws and local ordinances. Under the statutes of Virginia, for example, cities are not permitted to levy special assessments for pavement resurfacing, reconstruction or new construction. They may, however, use special assessments for sidewalk and alley construction, reconstruction and repaving. Pennsylvania, Vermont, New Hampshire and Maine are among the states which permit cities to use special assessments only for new construction.

The survey showed the following division of costs—excluding the share the Federal Government pays on such projects as WPA—between the city and abutting property owners in typical street construction:

Abutting owners in 9 of the 35 cities levying special assessments for pavement reconstruction pay the entire cost of the work; but in Indianapolis, Ind., the owners pay only 25 per cent and the city pays the rest. Four cities—Wichita, Kans., Lexington, Ky., Omaha, Nebr., and Las Vegas, Nev.—pay only the cost of reconstructing intersections. Peoria, Ill., pays 20 per cent of the cost of reconstructing residential streets and 80 per cent of the cost of arterial street reconstruction, and the abutting owners pay the rest. In Des Moines, Iowa, the city pays 40 per cent of the sponsor's share on WPA projects, nothing in some other cases. Other practices vary as widely.

The city pays none of the cost of resurfacing in 8 cities, the property owners footing the whole bill. In Indianapolis, the city pays 75 per cent of the resurfacing bill, and the property owners the rest. The division of cost between cities and property owners in others of the 29 cities levying special assessments for resurfacing range between these extremes.

In 19 of the 62 cities which levy special assessments for new construction, the abutting owners pay the entire cost and the city nothing. At the other extreme, the city's share of the expense is 80 per cent in Ardmore, Pa.

PAVED IN 1912

Seventh Street, Connersville, Ind., as it looked when photographed in 1928. Six such streets, totaling 58 blocks, were paved 1912 to 1915; 7 blocks more in 1919; all are in good condition today.

Big changes on this street, but not in the pavement—it's CONCRETE

AS IT LOOKS TODAY

Seventh Street's 29-year-old concrete promises many more years of satisfactory service.

TWENTY-NINE YEARS is a long time in the life of a town and of its streets. Yet there are many instances in which concrete has served such a span with a minimum of maintenance.

Clyde E. Berry, superintendent of city streets, Connersville, Ind., writes: "Many of our concrete streets will soon be 30 years old, yet the maintenance cost is very low, requiring an average annual expenditure of only about 1¼c per square yard."

Actually, this Connersville maintenance figure means about three hours' work per block once a year by a five-man crew going over the joints in the concrete. *No* major repairs, *no* resurfacing, *no* reconstruction!

Obviously, these streets have paid out as an investment. Time has transformed the scene, but the appearance of the original concrete pavement shows little change. The streets remain a credit to the community and to the engineers and officials who chose concrete.

Pave *your* streets with this money-saving material and enjoy these benefits.

PORTLAND CEMENT ASSOCIATION
Dept. A 3-4, 33 W. Grand Ave., Chicago, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

Getting Around Charity Rates for Water Service

The Problem and How It Has Been Solved in Los Angeles, Where Cut Rates Are Illegal

IN a statement issued by the Board of Water and Power Commissioners of Los Angeles recently, attention was called to the fact that although the municipally owned water and electric systems of Los Angeles have been furnishing free water and electric services to charitable and semi-charitable institutions at different periods and in varying aggregate amounts up to $60,000 a year, relatively few citizens knew of the practice. At the present time free services under the prevailing discount policy represent savings to such institutions of from $3,500 to $4,000 a month.

The history of the selling of water and electricity at a reduced rate to charitable and semi-charitable institutions in Los Angeles is of interest, as is also the fact that the Department of Water and Power cannot legally sell water or electricity at rates below those established by ordinance. This legal technicality has not been an insurmountable obstacle, however. A way was found to do by indirection, but legally nevertheless, that which it could not do directly.

Under the City Charter, the Board of Water and Power Commissioners may transfer to the City General Fund surplus revenues of the Water and Power Bureaus. The Board cannot, however, earmark such funds for specific purposes; but there can be a tacit understanding that, after transfer, they will be used for the purposes originally intended. This simple expedient has made it possible for different boards to transfer substantial sums of money to be allocated by the City Council to the Social Service Commission, which subsequently returned to the Department of Water and Power a portion of that money in payment for the free water and electricity granted to charitable institutions. Under this procedure, the Department, in a roundabout way, pays itself for the services supplied in the name of charity, adheres strictly to the rate ordinances, and complies with the letter of the City Charter.

How It Came About

When the city of Los Angeles, in 1902, purchased the facilities of the old Los Angeles Water Co., it was discovered that the company had been granting free water to indigent families and to all charitable institutions. Thirty-eight years ago such institutions were relatively few, but as the city grew their numbers increased rapidly.

Literally, the Department "fell heir" to the charitable discount custom when it acquired the properties of the private water company. On April 14, 1902, the original Board of Water Commissioners, upon the recommendation of a special committee appointed to investigate the matter, authorized continuation of the free-water policy. A few months later, however, the Commission amended its policy by providing that charitable institutions should receive a discount equal to 85 per cent of their water bills. That is, they were to pay 15 cents for each dollar's worth of water used. That policy continued in effect until 1938.

Meanwhile, the city entered the electric utility business, utilizing the Owens River Aqueduct water supply for power generation. Charitable institutions having long enjoyed free or nearly-free water services began to ask for discounts on their electric bills. Pursuant to an inquiry by the Board of Public Service Commissioners, successors to the Board of Water Commissioners, the Controller reported that the operating and maintenance expense of the Power Bureau, including bond interest, then amounted to about 57 per cent of the gross revenue collected, and recommended that charitable institutions, in general, be allowed a discount of 40 per cent from their electric bills. The Board approved this recommendation.

From 1902 to 1938 charitable institutions had been receiving an 85 per cent discount on water bills, and a 40 per cent discount on electric bills from 1922 to 1938.

In May, 1938, the Board of Water and Power Commissioners, successor to the Board of Public Service Commissioners, discovered that the charitable institutions were getting their water at 20 per cent below actual cost. A detailed study of Water Bureau expenses disclosed that maintenance and operating costs, including bond interest, amounted to 66 per cent of gross water revenue. The 85 per cent discount policy being in effect, the Water Bureau was losing about 20 cents on every dollar's worth of water sold to charitable agencies.

Policy Amended

As a result of that disclosure, the whole subject of charity discounts was reviewed once again by the Board with the hope of evolving a policy equitable to both the charitable institutions and to the Department of Water and Power. A committee consisting of representatives of the Board of Water and Power Commissioners, the Council of Social Agencies and the Community Chest held numerous conferences and in October, 1938, submitted a proposal which was approved by the Board of Water and Power Commisisoners then in office.

Briefly, the recommendation was that beginning November 1, 1939, the maximum discount for water and electricity each be fixed at 50

The real McCoy!

Trinidad Native Lake Asphalt has had as many would-be imitators as the famed "Kid McCoy." But even today, with all the remarkable achievements of *science*, this famed native lake asphalt has not been duplicated commercially.

Trinidad has a combination of properties that is absolutely essential to fine paving. It has a remarkable resiliency which enables it to absorb shocks that would damage ordinary paving. It contains a colloidally dispersed mineral filler which stabilizes the asphalt and thus prolongs the life of the pavement. It has an excellent balance between adhesion and cohesion.

Today's accelerated paving program calls for quality paving that can turn in a record of low-cost-per-square-yard-per-year maintenance in normal years as well as in emergency years. Barber Asphalt Corporation is prepared to furnish a complete line of asphalts for all types of long-life paving construction and maintenance. Mail the coupon for information about the products that you're interested in.

TRINIDAD NATIVE LAKE ASPHALT

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City _____ *State* _____

per cent for organizations whose activities were 100 per cent charitable, and that proportionately smaller amounts be allowed to those whose charitable activities were less than 100 per cent of the total. For example, an agency receiving its total income from charity would be allowed the equivalent of the 50 per cent discount; an organization receiving half of its income from charitable sources would be entitled to a 25 per cent discount. The discounts decrease in direct ratio to decreased percentage of charitable services performed, or charity income received, by the organization. That is the way the matter stood when the present Board took office, and that is the way it stands today.

The policy of granting free, or in part free, water and electricity to institutions of charity is as old as the Department of Water and Power itself. It is not intended to discuss here the question of whether it is sound public policy; whether it is too liberal or not liberal enough. The object is to call attention to the fact that through the expedient of "transfers of water and power revenue funds to the General and Reserve Funds of the City" substantial sums are being applied annually in part payment of water and electricity bills rendered to charitable institutions.

The Board is carefully studying the matter along with the general subject of Department money transfers which, for all purposes, in 1940, totaled about $2,000,000 and for the preceding ten years amounted to $15,296,799.

EDITORIAL NOTE.—We record this interesting information from the Official Bulletin of the Department of Water and Power of Los Angeles, because there are many cities faced with similar problems which are looking for legal expedients to solve them. A study of the Water Rates and Service Charges which have been published each month in THE AMERICAN CITY for over two years, and which are now available in pamphlet form, show that many cities give considerable discounts to charitable organizations, not realizing perhaps that they too are penalizing the Water Department by furnishing water at less than actual cost. A study of the situation and an adjustment, perhaps in the manner used in Los Angeles, may be helpful in many communities.

Handling Meetings of Anti-Democratic Groups

SHALL we allow meetings of anti-democratic groups? Shall we put any curb on gatherings of Nazis and Communists? And if so, what? By denying anti-democratic groups the right to meet, do we destroy the very democracy we seek to preserve? Do we thereby dramatize such groups and help them fester beneath the surface? By allowing such meetings to be held, do we encourage the growth of groups advocating forms of government which themselves do not permit freedom of assembly? Or do we prove democracy to be strong and unafraid?

These vital questions—which concern every citizen, but which face most directly the mayor of the local community—are the subject of a thoughtful Memorandum on "Freedom of Assembly and Anti-Democratic Groups," put out by the Council of Democracy with the aid of a committee of consultants. The publication outlines the historical background of freedom of speech and assembly in this country; describes World War experience, and experience in Europe; points out the difference between "meetings, masses, and mobs"; briefly defines the law applying to freedom of assembly; and finally suggests practical solutions of the problem.

The Memorandum states that the "chief practical danger to freedom of assembly seems to be in the realm of local government." It concludes that "a blanket ban on meetings of all anti-democratic groups *in peace time* would be a strategic mistake and an unnecessary violation of our traditional freedom of assembly. The evidence presented by our consultants suggests that a complete ban on anti-democratic groups generally succeeds only in driving them underground, where they gain in glamor and secrecy of operation. There is also the danger . . . that such blanket prohibition become the occasion for indiscriminate persecution of dissenters. Thus drastic curtailment of meetings arouses widespread resentments and prevents the free exchange of ideas and the elimination of unsound schemes by open exposure of their fallacies.

". . . Most of those consulted would rather try specific restrictions of abuses of the right of peaceful assembly. They 'do not see that the risks in allowing and even fostering freedom of assembly are as great as the risks of denying it.' These experts stand with the Supreme Court and the traditional constitutional view."

The difference between a mob and a genuinely democratic group or meeting, the report points out, lies in the procedure prevailing at the meeting. . . . Only groups holding free meetings are entitled to the rights of freedom of assembly. To prevent free meetings from turning into mobs is therefore our primary problem. Local efforts to maintain democratic procedures in the meetings of totalitarian organizations might do a great deal to check the emotionalism and tendency toward violence of the crowd.

"There are a number of provisions which should be made to insure that public meetings keep this form.

A. Adequate halls.—Study of the probable size of a meeting beforehand by the municipal authorities to ensure that:

(1) The hall won't be too small.

(2) There will be no overflow outside.

(3) Broadcasting and loudspeaker mechanisms are present which make it possible for people to be heard while speaking in a normal tone of voice.

(4) Adequate lighting.

(5) Formal arrangements, a platform, a reading desk, a glass of water, to keep the idea "This is an orderly and usual public meeting" continually before the people's mind."

B. Inclusion of a requirement that parliamentary procedure be maintained as a condition of granting permits for a meeting. . . . The tendency of a meeting or a group to get out of hand would be reduced.

C. Provisions of adequate and friendly police officers to maintain the aforementioned rules and regulations.

D. Wearing of political uniforms or other provocative insignia strictly supervised, if not forbidden.

E. Holding the group having the meeting responsible for anything which happened to a minority individual within the halls. Bonding of those responsible for the meeting.

F. Providing for protest groups which gather outside a meeting place of another group, entering a hall and holding an orderly protest meeting inside."

The Memorandum adds that "local governments can undoubtedly help much to make freedom of assembly a reality by providing public places for meetings."

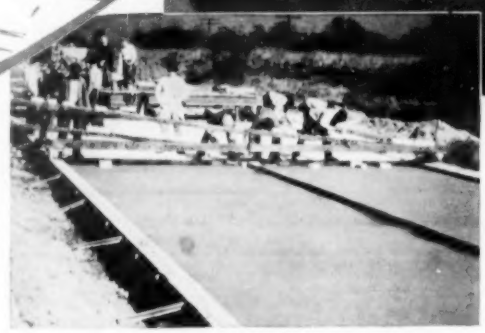
But most important of all remedies for the problem is to "organize extensive and widespread pro-democracy meetings. . . . He who wants to fight for the future of democracy should see to it that whenever a group he considers anti-democratic holds a meeting in his town, more effective meeting is held by the pro-democracy group where constructive attention can be focused upon the remedying of some local ill."

The Memorandum, which has been published by the American Council on Public Affairs, Washington, has been put out in condensed, popular form by the American Association for Adult Education. Both the complete and condensed pamphlets are obtainable, at 10 cents each, from the Council for Democracy, 285 Madison Avenue, New York.

The New York State Council of School Superintendents' Committee on Adult Civic Education, in Schenectady, has also devoted its January Bulletin to the subjects of Freedom of Speech and Freedom of Assembly. The Bulletin is largely devoted to a description of town meetings and forums in cities and towns of New York State. Both this publication and those mentioned above contain bibliographies on the subject.

for Smooth rides . . .

BUILD A MODERN BRICK PAVEMENT



Not to be confused with standard two-course construction is this new and approved method for highway surfaces. You can now build brick roads with a perfect traffic surface at substantially lower cost! It is called vibrated monolithic brick. . . Vibrating machinery, recently developed, makes this possible.

In this method of construction (cut shows job under way in Jefferson County, Ohio) the brick are vibrated into the freshly placed concrete. Expansion and control joints are used. Grout filler completes the job.

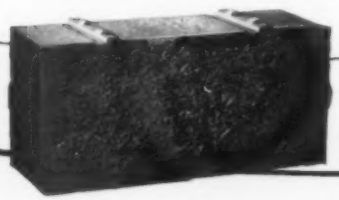
FOR truck or car, modern brick pavements are popular with the traffic. They give comfort to the highest degree—a superlatively smooth, even traffic surface—an ease of driving that makes them favorite routes.

Unless you've followed brick construction very closely, you may have overlooked important new developments. For example, Vibrated Monolithic brick construction which is illustrated above.

And then there are many new advances in the traditional two-course brick pavement such as wire-cut, non-skid surface, rolling on boards; surface filler removal; mastic bedding courses. All these are potent factors in ever-smooth modern brick pavement surfaces.

Hundreds of modern brick pavements have been built in the past few years. They are headed towards 50 years of trouble-free service. Like their predecessors, many of them will reach that anniversary—perhaps pass it! For of all commonly used paving materials, Vitrified Brick has by far the greatest resistance to weather damage—the starting point of most pavement failures.

Your community can use modern brick pavements to advantage. Put them wherever you want a road or street pavement to have the lowest cost per year of service. National Paving Brick Association, National Press Building, Washington, D. C.



VITRIFIED BRICK
THE MOST SATISFACTORY PAVEMENT

During March we hope you will remember to mention THE AMERICAN CITY.

Fairmont, W. Va., Water Works

(Continued from page 39)

Filtration

The plant is equipped with four filters of 1½-mgd capacity each, three of which are equipped with sand beds; the fourth was recently changed to Anthrafilt. The filters have Roberts underdrains with 2-inch laterals and Roberts hydraulic control tables with Simplex gages for recording the loss-of-head and the rate-of-flow, which is maintained uniform by a Simplex rate-of-flow controller in the pipe gallery. The sand filters have 15 inches of gravel over the underdrain system and 28 inches of sand with an effective size of 0.6 mm.

Water enters the filters through a central flume which runs the full depth of the filter and consequently wastes considerable water when the filter is drained for washing. There are three concrete wash-water troughs running laterally on each side of the central flume, the tops of which are 24 inches above the normal sand elevation. A 50,000-gallon elevated steel wash-water tank is located just outside the filtration plant next to the raw-water reservoir. The average filter runs are around 50 hours, and 25,000 gallons of water is used for each wash. Some trouble is being experienced with mud balls in the corners of all the sand filters and the new anthracite filter, and is believed to be due to the low rate of vertical wash possible with the capacity and elevation of the present wash-water tank.

The filter which has recently been equipped with Anthrafilt has the same underdrain system as the sand filters but only 13 inches of gravel and 30 inches of Anthrafilt with an effective size of 0.72 mm. As the new filter material has been in service only a few months and all the fines have not been washed out, no special benefits have been noted from the use of this filter material. The filter cracks in less than 12 hours operation, showing the probable presence of excess fines in the surface, but the rate of washing has been reduced below that of the sand filters, because the coarser material washes over into the troughs when the full force of wash water is applied, although this does not occur in all sections of the bed.

The wash water from all the filters flows to a 75,000-gallon underground sump. The original plans called for decanting the clear surface water after the wash water had settled, and returning it to the raw-water line. This has not been found feasible and the method has never been used, so the underground waste-water tank is used only as a surge tank from which the waste water is bled to a local sewer at a slow rate so as not to overtax its facilities.

The filtered water flows to two 1½-mg capacity open storage reservoirs adjacent to the plant, from which the water flows to the city distribution system by gravity.

Service Pumps

In the basement of the plant adjacent to the well-lighted and well-ventilated pipe gallery are all the pumps for service at the plant. The original 4-million-gallon Worthington centrifugal pump with a General Electric 20-hp motor, installed to move water from the raw-water reservoir to the settling basin in case of low water in the reservoir, has never been used. There are two Westco automatic pumps which deliver water to a pressure tank for the operation of the chlorinators, the hydraulic valves, the hydraulic elevator for moving the chemicals to storage on the second floor and for domestic service. These pumps maintain a pressure of 45 to 95 pounds in two large tanks installed in the basement.

There are two Fairbanks-Morse pumps of 250-gpm capacity driven by 7.5 hp Fairbanks-Morse motors which take water from the clear wells and deliver it to the elevated wash-water tank.

Also located in the basement is a Bryant natural-gas boiler for heating the plant in the winter, and a Ruud automatic hot water heater for domestic service. There is also a well-equipped laboratory on the filter floor and an office for the chemist.

Attractive Setting

The Fairmont filtration plant is located on a hilltop in the middle of an 80-acre park. The well-landscaped park has a band-stand, a small pavilion, two tennis courts, a wading pool, playground equipment, 15 outdoor fireplaces for those using the 35 picnic tables, many large flower-beds and two fish ponds. As many as 5,000 people have used the park in a single day, with many also visiting the filtration plant.

The Water Department of Fairmont is operated under the direction of Harry C. Louden, Water Commissioner, with William B. Kirchman as Chemist in Charge of the operation of the filtration plant. The original plant was designed by Fuller & McClintock, of New York, and was built by Rust Engineering Co., of Pittsburgh, Pa. The 1937 improvements were made by the Cement Gun Co., Inc., of Allentown, Pa., from the designs of Bernard G. Sampson Co., consulting engineers, of Fairmont, W. Va.

Housing Development Raises Tax Income

THE construction of a low-rent USHA housing development at Huntington, W. Va., has indirectly provided the city with an extra $2,000 a year tax income.

Built in a previously neglected city area, the housing project immediately provided impetus for nearby private construction. The result: enough new assessable property to yield more than $2,000 a year, according to reports of local officials.

The city's books show $450,000 in new construction in the immediate vicinity of the housing project. Of this, some $165,000 is taxable, the United States Housing Authority reports.

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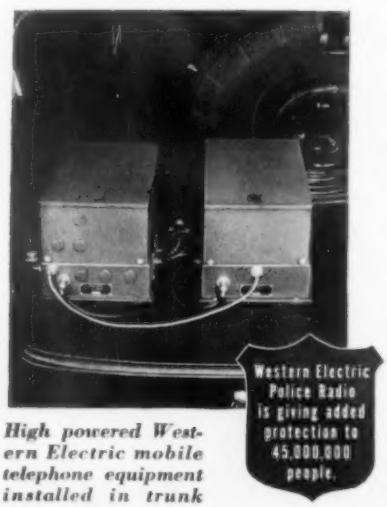

High powered Western Electric mobile telephone equipment installed in trunk compartment.

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To these technical features add the plus values of low initial cost, low operating cost and minimum battery drain.

Give your force the best—write Graybar Electric Co., Graybar Bldg., N.Y., for details.

Distributed by GraybaR

Western Electric

Cost Accounting in Waste Collection

(Continued from page 48)

tered and their effect on the final result. Methods are discussed whereby these factors may be compensated for, without adversely affecting the service rendered.

Planning Future Operations

These reports are also used as a basis for planning the work program for the following year. In making up this outline, the monthly variations of several years are noted and weighted with personal observations from the field. These observations include additional service required, additions to routes, such as new subdivision developments, building up of sparsely settled locations, changes in type of neighborhood development, relocation of dumps, etc.

Results

It has been found that the record system now used in Cincinnati has helped to achieve an administrative control not heretofore possible. It has worked well because it was based on the requirements of the work and on the local situation. Moreover, it has been found that the field reports submitted are more accurate and more detailed, when the reporting employees understand the need, use and value of such data to themselves as well as to the Division.

The prime requisites for any cost system are accurate and timely reporting and pertinent information rearranged into a set of resulting reports which enable the administrative officials to evaluate properly the work accomplished and adequately plan for the future.

—From a paper presented before the American Public Works Association Convention in Detroit, Mich. Copies of the various forms used in the Cincinnati accounting system may be secured from the author by officials directly connected with cost accounting work in their cities.

Petroleum Industry Can Meet Municipal as Well as Civilian Needs

By T. H. Barton
President, Lion Oil Refining Co.,
El Dorado, Ark.

IF WE thumb back the calendar to 1917, we may ascertain at a glance that petroleum was as valuable a weapon as any utilized in driving back the forces of the enemy. Life-blood it provided for tanks, for marine vessels, for the armies of the air.

Today its importance is many times amplified. Estimates of the amount of gasoline necessary for only one day's operation of bombing and pursuit planes alone abroad total the incredible figure of more than 2¼ million gallons—sufficient to operate 3,000 American passenger cars for one year.

The history of the oil industry has been a history of continuous demands upon its ingenuity, its inventive spirit, and its refusal to acknowledge defeat. As automotive engineers made continuous improvements in engine design and operation, petroleum scientists stood ready at every forward step with new fuels and lubricants to facilitate the operation of these new high-compression, finely-geared engines. When aviation assumed national importance, the petroleum industry had already spent grueling hours in its laboratories and engineering offices to develop new processes which would make possible the manufacture of a higher octane fuel than had ever before been produced from crude oil.

Unhesitatingly it has junked still operative machinery to rebuild with more modern, more efficient units for the manufacture of better products—with the result that the prime characteristic of the modern refinery is a continuous state of construction and reconstruction.

Present Status of the Industry

As an insight into the status to which this advancement has carried us as compared with our facilities in 1917, I offer these facts:

Within the last two decades, the number of producing oil wells in the United States has nearly doubled. Wells are drilled today five times as fast as ten years ago. Continuous exploration is opening new fields, and scientific advancements have given us means of restoring productivity to old fields.

In the last war an Army division needed 4,000 horsepower, while today it needs 187,000 horsepower, and no other nation can even begin to support such equipment on its own oil resources.

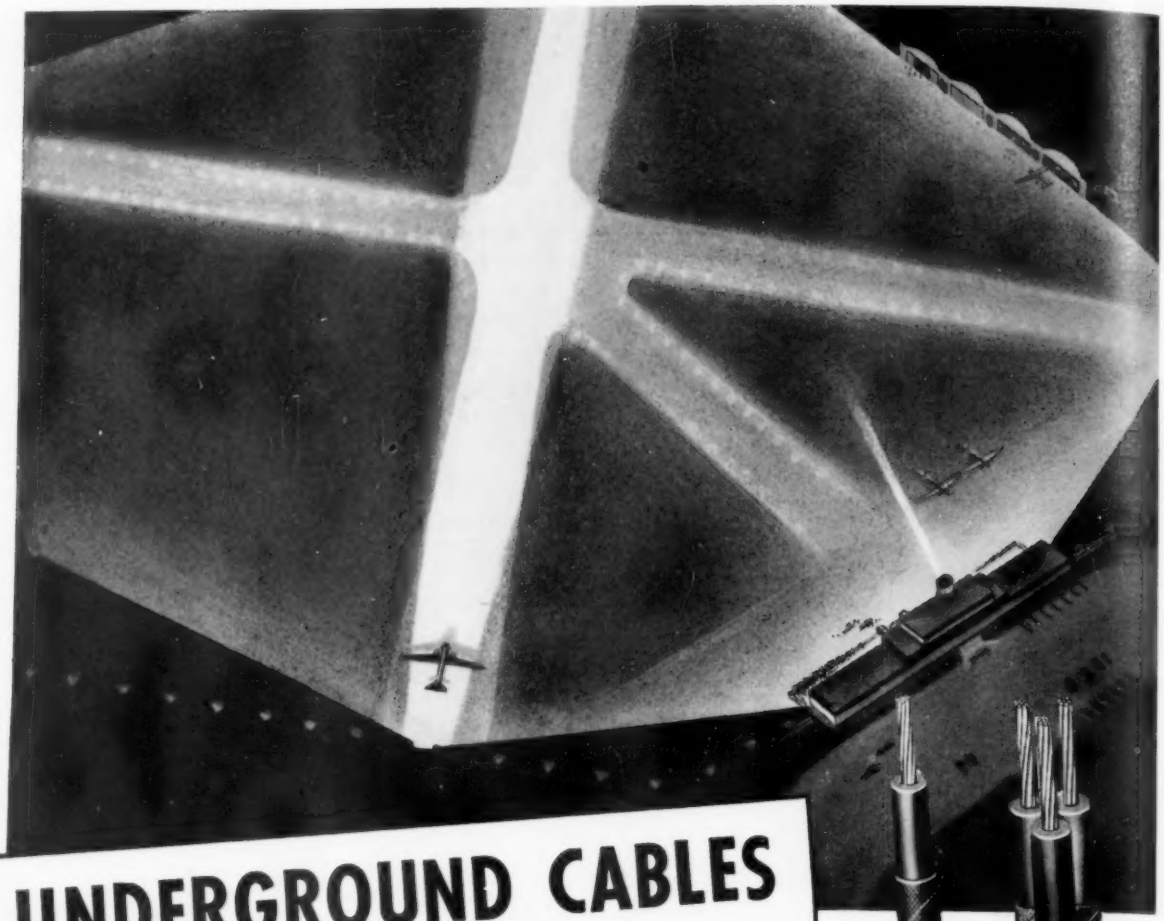
The 461 refineries in the nation, twice the 1917 figure, are distributed through 36 states, indicating the widespread availability of petroleum products.

From these facts it may be seen that the petroleum industry—with a minimum of reorganization and a relatively limited expansion of producing, refining, and transportation facilities—is adequately prepared for supplying not only vitally important military and industrial needs, but municipal and civilian requirements as well.

As a final examination, I ask you to measure these indications of our industry's state of preparedness on the yardstick of twelve principles set up by the National Defense Advisory Commission for awarding of defense contracts.

These factors are: speed, quality, price, geographical distribution of orders, avoidance of transportation congestion, available power facilities, labor standards and supply, effect on civilian consumers, financial responsibility of contractors, their past experience on the army's educational orders, their moral responsibility, and maintenance of competitive bidding on contracts wherever possible. The petroleum industry stands fully prepared to meet emergency's needs.

—From a talk at the American Petroleum Institute Convention at Chicago in November, 1940.



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Forward Steps

Reported by Municipal Officials, Chamber of Commerce Executives, and Others

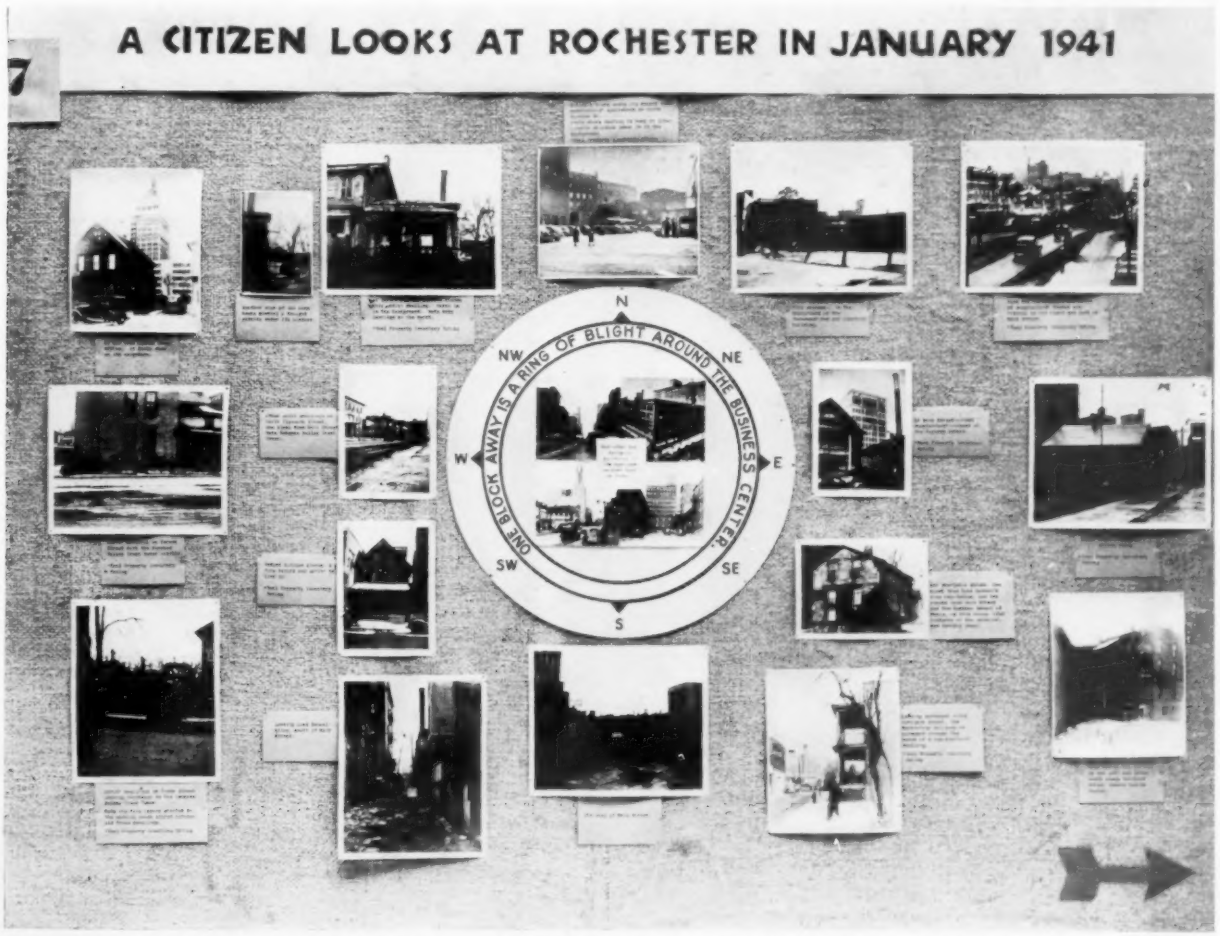
"A Citizen Looks at Rochester in 1941"

ROCHESTER, N. Y.—A Citizens' City Planning and Housing Council has just been formed in Rochester. Patterned on the Citizens' Housing Council of New York, it made its debut in February with an exhibit entitled "A Citizen Looks at Rochester in 1941." Literally created by citizens alone, without the guidance of technicians, the exhibit is refreshing as a reminder to city planners and engineers of the laymen's view on these problems.

The mythical Rochester citizen who looks at his city sees the outward signs of decay most common to our modern cities today, from which Rochester is not free. Blighted areas, poor zoning, ugliness, and inefficiency are to be found in any unplanned city. But Rochester's citizens are especially alarmed over the devaluation of their property and the mounting tax rate. The city government is trying to snatch solvency from the pockets of its citizens before they all flee the town.

The vocabulary of experts baffles the average layman and the exhibit spends much time simplifying the matters to be dealt with. What does the expert mean by blight? What is a zoning ordinance and how is zoning related to city planning? What is a population curve? Subdivisions and plat plans are jargon to the uninitiated. Since this is a citizen movement in Rochester, the citizen must understand these matters, and the Council is doing its best to popularize what may seem otherwise like dry and unpalatable business. Without the laymen's support, the planner will not go far today. Gone is the time when great foundations backed city planning. The movement must come from the many who inhabit the city, and if so they must be made to understand the problem in simple language.

MRS. ALAN VALENTINE,
Vice-Chairman, Citizens' City Planning and Housing Council of Rochester, N. Y.



ONE OF THE PANELS FROM ROCHESTER'S EXHIBIT OF PLANNING AND HOUSING PROBLEMS

This panel shows with photographs and captions easily understood and meaningful to the layman blight and decay a block away, in all directions, from the heart of the city's business district. Other panels showed the beneficial effects of planning in other parts of the city; photographs and qualifications of the members of Rochester's City Planning Board; and, finally, a presentation of the new Citizens' City Planning and Housing Council and its purposes. Also displayed in the library were photographs and other material relating to Rochester's city planning history. Other features of the publicity program included moving pictures, newspaper articles and interviews, radio addresses, and poster displays. The exhibit was held in the main hall of the Public Library, which thousands of people enter each week, and will subsequently be shown in other parts of the city.

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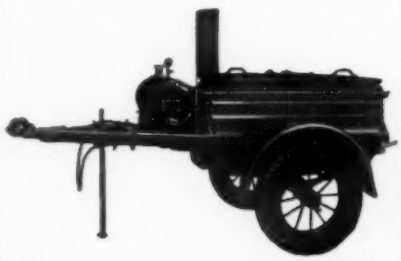

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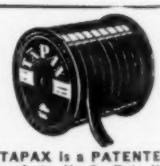

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Put TAPAX—sticky side down—on flange. Replace cover.

The Public Library, and the Municipal Electric, Water, Sewer, and Village Offices of Watkins Glen, Housed in the New Municipal Building

Unusually Complete Municipal Building for a New York Village

WATKINS GLEN, N. Y.—Watkins Glen's new $85,000 municipal building, recently completed with the assistance of WPA, provides not only ample space to house all the departments of the village government, but also room for the village library and auditorium.

Previously the village departments and the fire department were housed in two antiquated brick buildings which occupied the present site. Both structures were damaged during the severe flood of July, 1935. Village officials were faced with the necessity of making major repairs on both buildings. At the same time there was pressing need for additional office and record-keeping space for the expanding village administrative offices and the village clerk's office. The village owns both its water-supply system and the electric power system, and has recently constructed a sewage-disposal plant.

This expansion of functions and activity made the need for additional space imperative and prompted the village board to submit to the electorate the proposition to erect a new building. It was approved and plans were prepared in 1938. An application, submitted to WPA, was approved in March, 1939, with $26,389 in Federal funds allocated for the project. The work of razing the two old buildings was started the following June, and by August 1, 1940, the new building was opened and in use.

The village followed an unusual plan during construction in order to make full use of WPA labor. Contracts for erection of the steel frame, plumbing, electrical work, roof, tile and other special parts of the job requiring skilled workers, were awarded to individual contractors, with the understanding that WPA supply the necessary unskilled labor. The demolition of the old buildings, foundation and concrete work, carpentry, and painting, were performed by WPA labor, while the village paid the wages of a few skilled workmen not available on WPA rolls.

The new building, 54 feet wide and 89 feet long, is of Colonial design. It is constructed of brick and tile, trimmed with cast stone, and has a steel frame. On its first floor is the village clerk's office, which has been equipped with a large reinforced concrete vault to house all village records. The fire department, police department, trustees' meeting room and public toilets are also on this floor.

On the second floor the village library occupies a spacious, well-lighted room, extending across the entire floor of the building, and finished in Early American maple. Located back of the library, an auditorium and public-meeting room with a capacity of 300 persons is equipped with a complete kitchen. Sleeping quarters for the firemen, with baths and shower rooms, are also on this floor.

ARTHUR J. PECK,
Mayor.

The Municipal Building in Watkins Glen

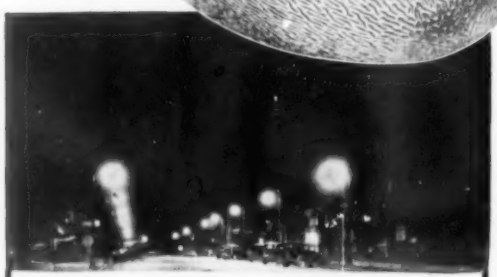
Policemen, Firemen, and the Draft

(See page 57)

PUT NIGHT TRAFFIC "In the Clear"

GraybaR QUALITY *Via* GraybaR ELECTRIC COMPANY

WITH THE G-E NOVALUX FORM 79 LUMINAIRE



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1. Stepped (lamp saving) reflector.
2. Spun sealed globe holder.
3. Reconditioned reflector exchange.
4. Durable Glyptal finish.
5. Machined joint between hood and reflector.
6. Die-cast aluminum hood.
7. Heavier pressed globe with drip-proof edge.
8. Larger ornamental globe (optional).
9. Available for Type H mercury lamps.

Here's an approach to street and highway lighting problems that means extra safety, extra savings, and extra convenience in getting equipment and supplies. » » » Safety records in scores of communities show lowered accident rates once night traffic moves under well planned installations of lighting units such as the G-E Novalux Form 79. It's not just a matter of "more light," but of scientific design plus proper layout involving such factors as glare, pavement brightness, shadow areas and the like to make more of the light *useful* light. » » » Along with more useful light for your money, you get longer lamp life, due to a reflector design that keeps lamp-stem temperatures down. A permanent spun-sealed joint between reflector and globe cuts glassware breakage, too. » » » By buying Novalux luminaires and other street lighting equipment and supplies "via GRAYBAR," you get the benefits of experienced aid in planning installation, to meet local needs and conditions. What's more, your local GRAYBAR branch is a complete source of supply for poles, standards, mast arms, wire and cable and all accessories that assure maximum performance from the Form 79 or any other lighting unit.

Why not check with a GRAYBAR specialist on the opportunities for putting night traffic "in the clear" in your community? Or write direct for 12-page bulletin which describes features of the Form 79 in detail.

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GENERAL ELECTRIC STREET LIGHTING · G-E and HORNI TRAFFIC SIGNALS · WESTERN ELECTRIC POLICE RADIO · HORNI & TELETYPE FIRE ALARM SYSTEMS

Defense Council for City and County

SYRACUSE, N. Y.—The fact that many persons not heretofore active in civic affairs are eager to volunteer for useful service during the present emergency, affords a unique opportunity to strengthen the work of local planning and housing agencies.

To utilize this opportunity in the interest both of the national defense and of the permanent welfare of the city, the Defense Council of Syracuse and Onondaga County has been established through the action of the Mayor of the city and of the Board of Supervisors of the county, consolidating various groups and committees under a unified set-up.

The general purpose of the Defense Council is to coordinate the activities of the existing agencies and groups in order to contribute to the national defense most effectively and to meet any emergency adequately and in an orderly manner. It is not intended that the Defense Council should assume the functions of any existing agency or groups. On the contrary, it will seek to augment the capacity of each group to perform its increased tasks by arranging for more effective cooperation among groups, and to supplement the activities of these groups only when there is no existing group responsible for and capable of carrying out new tasks created by the defense and emergency situation.

The Council is headed by the Planning Committee and has four sections dealing with various phases of defense and emergency activities.

The Planning Committee is composed of heads of principal groups of the community, such as Chamber of Commerce, Manufacturers Association, Council of Social Agencies, Labor Assembly, etc. Represented by several citizens at large, are various patriotic and veterans' groups, women's organizations, etc. The City Administration is represented by the Commissioner of Finance, an ex-officio member. The local congressman is also an ex-officio member. The official bodies with planning powers such as the City Planning Commission and Housing Authority are represented by their chairmen.

Being composed of the heads of all principal groups of the community engaged in the physical, social, and economic planning in the community, the Planning Committee of the Council provides a new and most complete facility for local planning as well as new facilities for coordination of community action, with preservation of democratic organization and processes.

The four sections of the Council are headed by vice-chairmen of the Planning Committee.

Membership of the sections is composed of representatives of groups immediately concerned with the matters of jurisdiction of each section.

Section 1 is dealing with the matters of civilian protection; that is, with public safety and traffic, fire protection, health measures, protection of industrial plants and utilities, blackout arrangements, air raid protection, and civilian mobilization.

Section 2 concerns itself with such matters of industrial expansion as sites, buildings, equipment, management, financing, orders, raw materials, labor supply and training, and labor relations.

Section 3 attends to the matters of assuring adequate supply of essential consumers' goods, fuel, gasoline, and building materials, housing and cost of living. This section also attends to maintenance of proper inter-group relationship, citizens' auxiliaries, volunteering for emergency activities, and problems arising out of redistribution of population (sudden influx or withdrawal of large numbers of people, removal of population from congested areas, etc.).

Section 4 is dealing with suburban and rural areas in regard to the problems under the jurisdiction of the first three sections in so far as they are not already covered by these other sections.

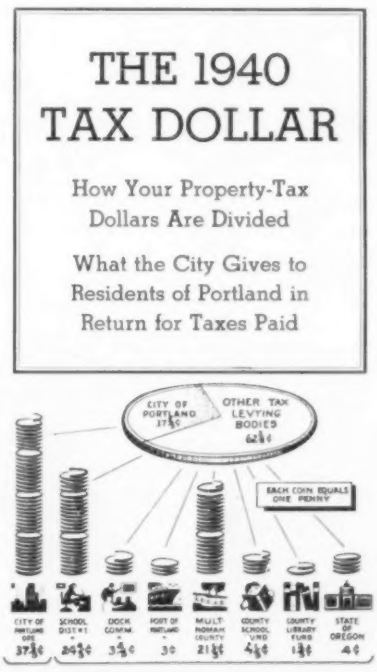
SERGEI N. GRIMM,
Executive Director, Syracuse Housing Authority.

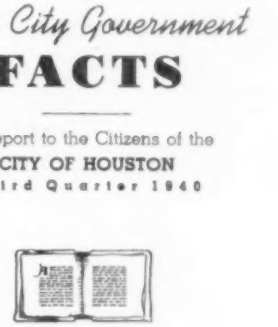
Local Government Is News

(Continued from page 65)

pocket-size folders on local finances illustrated here suggest possibilities for intriguing the voter into a more intelligent understanding of the services he is getting from City Hall. After all, is there any reason why he should not be kept up-to-date by these inexpensive and attractive devices for translating government costs into monthly or quarterly awareness of their results? An occasional one-page flier, as in Buffalo, N. Y., distributed widely, brings the human-interest side of the budget —which is really there—to the people who count, the voters.

This type of contact between City Hall and the citizen is one way of discovering—and holding—citizen-interest in government. It does not need to be a costly device. If printing "lines" are not available in the budget, mimeographing offers an inexpensive and flexible alternative. The main thing is to get the story of sound services at low costs to all the people. The devices illustrated here are a few of those that are yielding good returns in keeping budgets up—and criticisms down.


THE 1940
TAX DOLLAR
How Your Property-Tax Dollars Are Divided
What the City Gives to Residents of Portland in Return for Taxes Paid
CITY OF PORTLAND 37½¢
OTHER TAX LEVYING BODIES 62½¢
EACH COIN EQUALS ONE PENNY
CITY OF PORTLAND ORE. 37½¢
SCHOOL DIST. # 1 26½¢
DOCK COMM. 3½¢
PORT OF PORTLAND 3¢
MULT. NOMAH COUNTY 21½¢
COUNTY SCHOOL FUND 4½¢
COUNTY LIBRARY FUND 1½¢
STATE OF OREGON 4¢
CITY OF PORTLAND, OREGON
DEPARTMENT OF FINANCE
R. E. RILEY, COMMISSIONER



TO THE CITIZENS OF HOUSTON:

This is the third quarterly report to be issued during 1940 by the Research Department of the City of Houston. The purpose of these reports is to acquaint the citizens with factual data concerning their city government, toward the end that there may be a better understanding generally of municipal affairs. This department will welcome suggestions for improvement of these reports.

RESEARCH DEPARTMENT,
City of Houston.

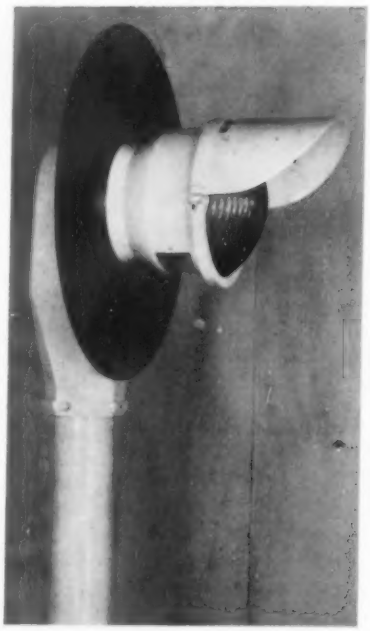
Portland, Ore., and Houston, Texas, tell the tax-dollar story in vest-pocket size

The editors of THE AMERICAN CITY will appreciate comments and suggestions for this department.

STOP THE SLAUGHTER!

PROTECT YOUR INTERSECTIONS WITH

Welsbach



WELSBACH Long-range Bull's-eye

Flashing STOP SIGNALS, long-range, flashing BULL'S-EYE SIGNALS and Welsbach's amazing new development—the fluorescent-neon SPIRALITE LAMPS for "stop" and "go" signals, sparkling visibility, no phantom lights, true red, amber and green colors; walk and arrow signals—much longer life at half the power consumption.

WHY WAIT,

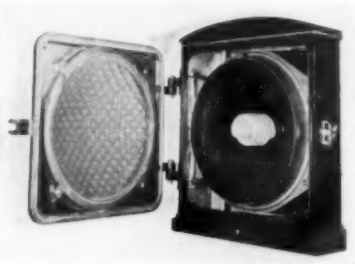
LET US PROVE THIS TO YOU NOW!

WELSBACH

TRAFFIC SIGNAL CO.

Manufacturers of Power and Battery-operated Flashing Traffic Signals

122 So. Michigan Ave., Chicago, Ill.



WELSBACH Spiralite

Do a Better Cleaning Job

for less money . . . Bigger capacity to clean more street area per load — with fewer stops for reloading — is just one big feature of HEIL Street Flushers . . . Bulletin TT639A describes HEIL Flushers and Sprinklers. Write for your copy today — also bulletins on other HEIL equipment for municipalities.

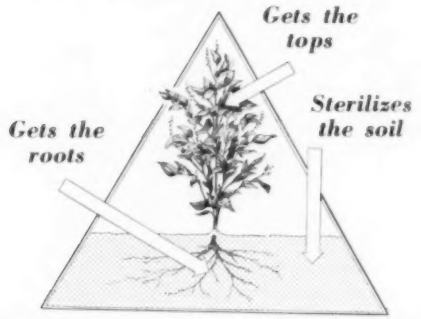
HEIL HYDRAULIC "SL" DUMP UNIT

HEIL CONVEYOR SANITATION UNIT

THE HEIL CO.

MILWAUKEE, WISCONSIN HILLSIDE, NEW JERSEY

1 SPRINKLING DOES IT



HERE'S why one sprinkling of Dolge Weed-Killer in the spring controls weeds through the whole year under usual conditions: It strangles the growth by acting on the foliage. It completes the kill by acting on the roots—they can't send up new sprouts. It sterilizes the soil—seeds can't take root there.

This powerful chemical keeps drives, walks, gutters, parking lots, tennis courts, sand traps, running tracks, baselines clear of growth. Dilutes in 40 parts of water for ordinary weeds. Goes long way. Please write for free manual.

Dolge Weed-Killer

The C. B. DOLGE CO. **Westport, Conn.**

Improving Municipal Administration

Current Items from the Public Administration Clearing House

Anti-Noise Campaigns in Three Cities

INCREASING DETERMINATION OF CITY OFFICIALS to curb loud and unnecessary blowing of automobile horns is reflected in recent action by the Mayors of New York City and Salt Lake City, and by the District Commissioners of Washington, D. C., the International City Managers' Association reports. Under orders of Mayor La Guardia, New York City police engineers assisted by a sound engineer are testing horns, motors and exhausts of the city's 11,876 taxicabs. Tests are made in enclosed piers on the East and Hudson Rivers.

Meantime an anti-horn-blowing campaign against private car owners has been pushed, and in one day last week various traffic courts collected $206 from 103 horn blowers and $2 from a driver whose brakes screeched. In this connection, a recent study shows that over a period of one year in New York City seven types of unnecessary automobile noises resulted in 171,276 warnings and 14,836 arrests.

Automobile horn blowing was hit recently by Mayor Jenkins of Salt Lake City—but for a different reason, one which brought favorable editorial comment. The Mayor's objections, which resulted in his proclaiming unnecessary blowing of horns a misdemeanor, were based on the custom of driving up to the curb in residential districts and honking for a date. "The auto horn should be used as a warning —not a love call," the Mayor said. "The dating swain should at least be willing to climb the porch steps to his beloved's door."

Of a similar nature was action by the District Commissioners of Washington, D. C., in banning musical horns on autos, particularly horns playing more than two tunes with sound effects lasting more than two seconds. The Commissioners said musical horns are not used primarily as a warning of danger, "but more as a misdirected fad."

Philadelphia is another of the larger cities attempting to curb auto horn blowing, particularly of the type heard in the small hours of the morning when a motorist attempts to arouse a sleepy hunting companion. Philadelphia police recently rounded up more than 60 violators and fined them $10 each.

Other action on the anti-noise front finds Louisville's anti-noise ordinance upheld recently by a Court of Appeals in an attack on its validity by a sound-truck operator. The Court said the city's police power allows not only regulation, but even prohibition of "disturbing noises" on public streets.

Special Utility Rates for Housing Projects

ARKANSAS is the eighth state to grant special utility rates — comparable to bulk user rates — to low-rent and slum-clearance projects approved by the U. S. Housing Authority. This was made possible by recent action of the Arkansas Department of Public Utilities, according to the National Association of Housing Officials.

The Arkansas department's order approving the special rates is similar to actions of seven other state regulatory bodies which held that there is no discrimination in affording reduced rates for utility services to such USHA projects.

Previous rulings include those handed down by the Arkansas Corporation Commission, the Washington Department of Public Service, the Illinois Commerce Commission, the Montana Public Service Commission, the North Carolina Utilities Commission and the Pennsylvania Public Utility Commission—all approving the special classification of such projects and holding that reduced rates granted them were not preferential. In addition, state commissions of numerous other states have accepted and approved special rate schedules and contracts giving reduced rates to local housing authorities.

From an economic standpoint, according to USHA, the decisions recognize the reduced cost to the utility of serving such a project as a single customer—because of the lower cost of distributing the service to tenants; the volume of service sold by the utility; the absence of credit risk represented by a public agency such as the housing authority; and the acquisition by the utility of new customers who formerly were prohibited by limited incomes from taking advantage of utility services.

There is significance in this recognition of the need for special rates if rents, which include utility costs, are to be kept low enough to meet requirements of USHA and the various state enabling acts, the Association said.

In accepting special rate schedules for low-rent projects, the Arkansas department of public utilities said:

> The tenants are families many of whom were formerly sharing a common spigot and sink and doing without modern bath and toilet facilities. By this slum clearance and low-rent housing program, therefore, the utility is securing further business through adding new customers and through increasing the service taken by tenants who had been its consumers in the past. The utility states that it has further benefited by increased accounts resulting from modernization of rental properties outside the project induced by the public housing program.

Overhanging Signs Regulated as Safety Measure

A TREND TOWARD MORE STRINGENT REGULATION of overhanging signs and displays in municipal business districts, in the interest of public safety, is reported by the International City Managers' Association. Many cities require a permit for each sign or awning and levy license fees to pay costs of regulation, while some cities prohibit the use of overhanging signs on certain streets.

Permit fees for overhanging signs in Allentown, Pa., and Cedar Rapids, Iowa, are $2 for each sign and $1 for awnings. Evanston, Ill., has a basic rate of $3 per sign, plus an annual rental fee of 3 cents per square foot. The fee in Portland, Ore., is $5 for a temporary sign 42 inches or less in width, and $10 for a sign more than 42 inches wide.

Spokane, Wash., where overhanging signs are charged 3 cents per square foot with a minimum charge of $1, and Kenosha, Wis., Louisville, Ky., Baltimore, Md., and many other cities, have comprehensive ordinances governing signs.

Regulatory ordinances usually indicate the extent, use and safety features which must be observed. Canopies and awnings extending past the building line and hanging over sidewalks are generally considered in the same class with signs as being in need of regular inspection and control.

Regulation of overhanging signs is needed because the signs, especially temporary ones, are a danger to pedestrians — particularly during strong winds when they may be blown down,

Stop All "Bargain Parkers"!

Install the

APEX Meter...

...it makes Every Parker pay!

"Bargain Parkers," driving from space to space looking for unexpired parking time are the cause of many traffic tie-ups—and destroy the purpose of parking meters.

The Apex meter avoids these traffic blockers by having just *two* signals:

1. LEGAL PARKING—*indicated by a green column.*
2. ILLEGAL PARKING—*indicated by a red column.*

The change from green to red occurs abruptly at the end of the allotted parking period. No parker can tell how much time is left on the meter. And since there is no incentive to search for a meter with more unexpired time, there are fewer cars backing into or pulling away from the curb. Thus one serious bottleneck of vehicular control is avoided.

Hidden unexpired time is only one of the valuable features of the Apex Meter. Check the other features as shown in the box—then write for a demonstration in your own city.

▲ Compare the APEX *With Any Other Meter--* Feature by Feature

1. Signal can be seen from any angle.
2. Signal can be checked easily—both sides of street can be checked with one trip through from street or sidewalk.
3. Fewer working parts—less service attention.
4. All parts non-corrosive in all climates.
5. Completely sealed (including coin slot) against dust, rain or snow.
6. Only one coin slot for both pennies and nickels—cannot be jammed.
7. Free from the possibility of tampering. 3 locks must be "picked" 8 times to open.
8. Coin boxes light—easy to carry—are sealed in municipal office.
9. Meter times by Lux Clock Mechanism, especially designed to meet our requirements.

JOBBERS WANTED

Write today, giving references, if you would like to handle this meter in your territory.

Optional Features

One or two-coin systems may be used.

Furnished to allow the use of unexpired time, if desired.

Length of parking period and the parking fee can be set to meet your requirements.

APEX METERS, Inc.

University Bldg., Syracuse, N. Y.

the Association points out. In addition, overhanging signs often hamper fire department operations, and neon and other lighted signs sometimes confuse motorists when traffic signals cannot be distinguished from a background hodgepodge of colors and symbols.

With respect to neon signs, the City Club of New York City recently asserted that red and green neon advertising signs create a serious traffic hazard, and urged passage of a municipal ordinance prohibiting the display of any new illuminated signs containing red or green colors less than 35 feet above street level.

New Rochelle Laborers on Annual Pay Basis

LABORERS FOR THE CITY OF NEW ROCHELLE, N. Y., will receive fixed annual salaries, two weeks' vacation and twelve days' sick leave with pay under the provisions of a new city ordinance, reports the International City Managers' Association.

A different annual scale of pay has been established for unskilled workers— street cleaners, janitors, grass-cutters; semi-skilled workers—those assisting in public works, park, sewer and highway maintenance, cultivation of shrubs and the like; and for skilled workers in public works and park maintenance and the operation of automotive equipment.

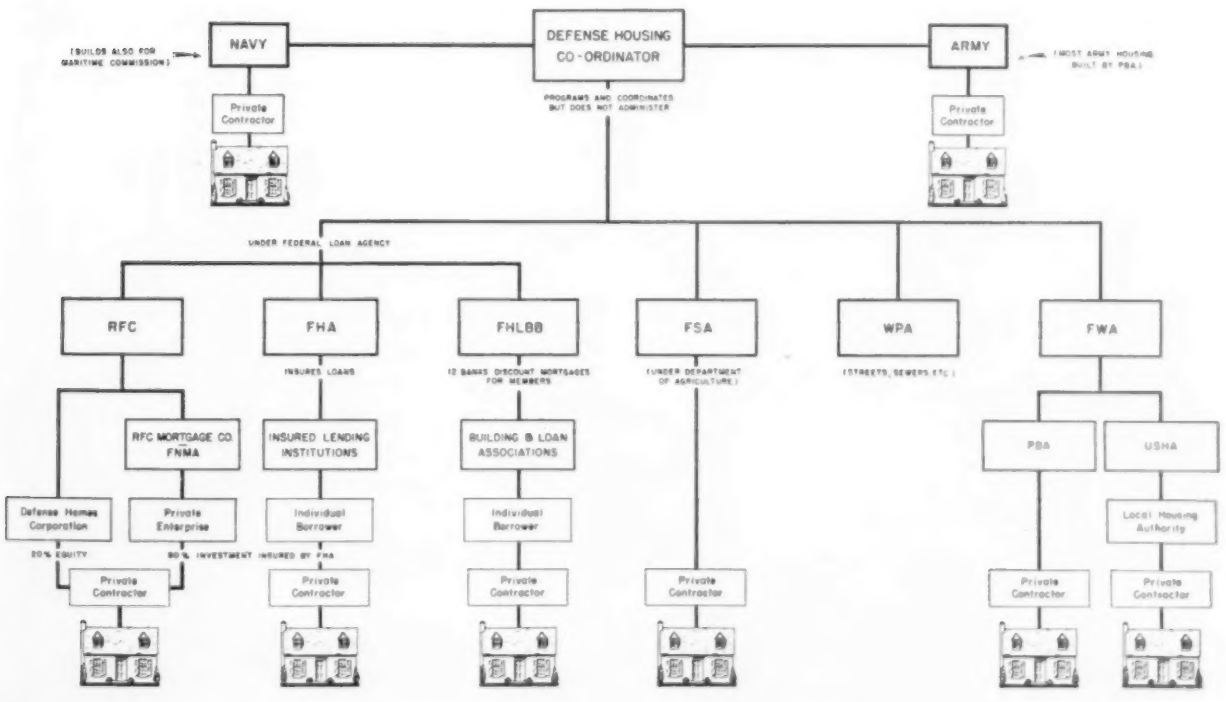
Increases in salaries for these jobs may be granted on the recommendation of the director of public works. Occasional and seasonal laborers are to be paid $4 a day.

The Municipal Bond Market

Recent sales of new issues from February numbers of *The Bond Buyer:*

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$428,000	St. Louis Co., Minn., County Welfare Deficiency	1	3.5	.92
188,500	Wichita, Kans., Refunding	1.12	5-5 Avg.	1.12
100,000	Terre Haute, Ind., Sewer	1.25	5-12 Ser.	1.18
500,000	Omaha, Nebr., Aviation Field	1.25	7/10 Opt.	1.246
150,000	Michigan City, Ind., School	1.5	7 Avg.	1.35
195,000	Hawley, Minn., Community Building	1.5	5.66 Avg.	1.41
125,000	Nashville, Tenn., Water Supply	1.5	8 Avg.	1.45
150,000	Memphis, Tenn., City Hospital	1.80	13-33 Avg.	1.76
1,000,000	Nassau Co., N. Y., Land Purchase	1.90	10.85 Avg.	1.8777
$13,412	Toledo, Ohio, Deficiency	2	6.85 Avg.	1.98
175,000	Baldwin Tp., Pa., Sewer System	2	15.5 Avg.	1.98
300,000	Phoenix, Ariz., Water-Works Ext.	3.75	10.16 Avg.	2.06
541,000	Irvington, N. J., Municipal Building and Hospital	2.25	16.25 Avg.	2.20
100,000	Corpus Christi, Texas, Airport Improvement Construction	2.5	4-33-6.5 O.-A.	2.47
207,000	Atlantic City Housing Authority, N. J., First Issue	2.5	7.75 Avg.	2.4977
521,000	Long Branch, N. J., Sewer, Street Assessment, Street Improvement and Improvement	2.5	7.75 Avg.	2.4977
280,000	Salt River Project Agricultural Improvement and Power District, Ariz., Refunding	3.5	21.85 Avg.	3.5427

HOW DEFENSE HOUSING IS BUILT



RFC - RECONSTRUCTION FINANCE CORPORATION
FHA - FEDERAL HOUSING ADMINISTRATION
FSA - FARM SECURITY ADMINISTRATION
WPA - WORK PROJECTS ADMINISTRATION
FNMA - FEDERAL NATIONAL MORTGAGE ASSOCIATION
USHA - UNITED STATES HOUSING AUTHORITY
FHLBB - FEDERAL HOME LOAN BANK BOARD
FWA - FEDERAL WORKS ADMINISTRATION
PBA - PUBLIC BUILDINGS ADMINISTRATION

OFFICE OF EMERGENCY MANAGEMENT
DIVISION OF DEFENSE HOUSING COORDINATION - 2/1/41

Chart Issued February 1, 1941, by the Division of Defense Housing Coordination

Your Newspapers Record Success of

PARKING METERS

A few newspaper statements, picked at random, that confirm the complete success of the metered parking system.

" . . . bigger turnover of cars using downtown space . . . "

" . . . fewer accidents in congested area since meters were installed . . ."

" . . . rural shoppers find parking space for first time."

"Jamestown Automobile club favors parking meters."

"Police traffic work accelerated by parking meters."

"The meters work like a charm—traffic really moves," said the head of the Merchants' Association.

"Merchants Elated at Meter Success; Double Parking Cut."

"Store managers report increased number of cars reaching their curbs . . ."

" . . . women now park with apparent ease in metered spaces."

THERE is substantial proof that metered parking is one of the finest things ever offered to municipal governments . . . equally recognized is the fact that the better the meter, the greater the benefit to the city. We consider the Karpark Automatic Meter the finest meter made, may we send you detailed information on KARPARK AUTOMATICS for your city? All Karpark Meters manufactured and sold under the patents of Vehicular Parking Ltd.

KARPARK CORPORATION
420 LEXINGTON AVENUE • NEW YORK, N. Y.

HOTELS

STATLER

PLAN YOUR TRIP so that your stops are made in *Statler* cities! That's the way to assure yourself of a most comfortable room, delicious meals, and splendid Statler service—and at rates that are "budget wise." There are Statlers in . . .

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DETROIT • ST. LOUIS

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NEW YORK — **Hotel Pennsylvania**
PITTSBURGH — **Hotel William Penn**

WASHINGTON, D. C.
(New Building)

Traffic Control and Facilitation

Conducted by Publications Committee, Institute of Traffic Engineers, 60 John St., New York
Charles G. Beckenbach, Chairman; Merwyn A. Kraft, Vice-Chairman; David M. Baldwin, Martin Bruening, Stephen Butterfield, Edgar F. Copell, John B. Ecker, Fred W. Fisch, Theodore W. Forbes, Milton Harris, E. Emmett Kirwin, Foster M. Kunz, Walter Matthews, Henry W. Osborne, I. S. Shattuck, Matthew Stelski, Frederick Tarbox

Using Parking-Meter Revenues for Traffic Improvements

By Harold F. Hammond

Director, Traffic Division, National Conservation Bureau, Accident Prevention Division of Association of Casualty and Surety Executives

THERE is a growing belief among municipal authorities, legislators and members of the great American motoring public that the most logical use for the funds poured into the approximately 90,000 parking meters now in use in this country is by expending that money for the alleviation of the conditions which made parking meters necessary in the first place. Parking meters were not designed as a device for extracting money from the motoring public. Wherever you find them, you will discover that they were installed for the specific purpose of relieving inadequate conditions of parking and traffic flow; that the fee charged serves the purpose of encouraging a maximum turnover of parking vehicles, and reduces "hogging" of parking space to a minimum.

Parking meters, which provide well-marked, individual stalls of greater length than are usually available in the event of non-metered parking on congested streets, also tend to reduce illegal parking because of the fact that they definitely indicate parking violations. This in turn discourages double parking and speeds up traffic flow.

For the purpose of ascertaining what use is being made of parking-meter receipts, and in particular of ascertaining what proportion of such receipts are being expended toward the relief of traffic and parking conditions, the traffic division of the National Conservation Bureau, accident prevention division of the Association of Casualty and Surety Executives, recently conducted a "questionnaire survey" of 53 cities using parking meters. Although that survey indicated that a smaller proportion of Mr. John Q. Public's meter money is being directly spent for traffic and parking improvements than would seem desirable, it revealed that a considerable proportion of these funds is finding its way back into such improvements, and rather definitely indicated that the trend is toward a greater and greater use of these returns for traffic-control measures and immediate and long-term parking improvements. Based upon the Bureau survey, it is estimated that 25 per cent of the net income from parking meters is now being spent for traffic purposes. Of the cities surveyed, approximately 40 per cent are devoting parking-meter incomes to traffic purposes.

Here are some of the findings resulting from this survey:

The gross annual parking-meter income from 31,812 meters in 61 cities replying to this specific question was $2,426,916.60—an average of $76.30 per meter. The net parking-meter income from 26,423 meters in 45 cities replying to this specific question was $1,807,643.01—an average of $68.41 per meter. It will be noted that 16 of the cities providing gross meter income figures did not answer the question relating to net meter income.

Therefore a comparison of the gross and the net meter income in the 45 cities replying to both questions was made, which revealed that the average gross income per meter for those cities (total $2,073,246.01) was $78.46. Subtracting the average net income, it will be seen that the average collection and maintenance cost per meter is about $10 per year. Presumably the average meter takes in about $75 per year, and costs about $10 per year to operate.

There was a wide variance in the number of police officers assigned to the full meters. However, an average of 59 cities indicated that approximately one full-time officer is assigned to every 136 meters.

Not all the cities interrogated specified what use was made of parking-meter funds. However, 33 indicated that this money was placed in the general fund, 11 that it was placed in the general fund but that an equal amount was earmarked to be spent on traffic purposes, 13 indicated that it was to be spent solely for traffic purposes, and one placed it in the sinking fund.

Wilmington, Del., whose gross income from parking meters was $32,000, allots 60 per cent of its net meter revenue to police salaries and 40 per cent to the purchase of traffic equipment.

West Palm Beach, Fla., spends its entire net parking-meter income, $23,778.25, on traffic improvements. Mount Vernon, Ill., places its entire net parking-meter revenue in a parking-meter fund. Decatur, Ill., earmarks its entire net parking-meter revenue, which is reported as $23,364, for traffic purposes.

Ponca City, Okla., after a Supreme Court decision, is applying the $1,400 net income from its meters to traffic purposes. Saginaw, Mich., is placing the $30,000 net income from its meters in the general fund, but earmarking it to be spent for traffic purposes. Salisbury, Md., which reports an $11,500 net meter income, places this money in a special fund and expends it on traffic purposes. So does Pontiac, Mich., with a net meter income of $41,949.94. Grand Rapids, Mich., specifies that its net meter revenue, which is reported as $75,000, must all be spent for traffic, and has set up a traffic fund for this purpose. Phoenix, Ariz., applies approximately $63,000 to its traffic department, the total net income from its meters. A municipal ordinance in Middletown, Conn., states that parking-meter revenue must be spent for traffic purposes, but the amount expended is not indicated in the reply to the questionnaire. New Brunswick, N. J., whose gross income from meters is $43,420 but whose net meter income is not stated, applies this money to traffic purposes, although there is no ordinance to that effect. Atlantic City, N. J., allotted its net meter income of $36,735 to traffic purposes, by municipal ordinance. The same is true of

DUAL AUTOMATIC PARKING METERS
COME THROUGH
Snow - Rain - Sleet - Blizzards
TO CONTINUE LEAD IN THE INDUSTRY

DUAL AWARDS SINCE JANUARY 1, 1941

Elizabethton, Tennessee	Initial Order
Memphis, Tennessee	" "
Canton, Ohio	" "
Hanover, Pa.	" "
Madison, Wisconsin	" "
Starke, Florida	" "
Oneonta, N. Y.	" "
McKeesport, Pa.	Additional Order
Akron, Ohio	" "
Norristown, Pa.	" "
Abilene, Texas	" "

QUALITY IS ALWAYS ECONOMY

The Original CARL MAGEE Meter

Licensed Under Vehicular Parking, Ltd.

DUAL PARKING METER CO.
Commerce Exchange Building — Oklahoma City, Oklahoma

CHEAPER than wood in the long run

Always ready for action to build . . .

- Combined Curb and Gutter
- Straight or Battered Curbs
- Integral Curb
- Any shape of Curb Face
- Sidewalks, etc.

BLAW-KNOX STEEL FORMS

• Blaw-Knox STEEL STREET FORMS will do your street paving work quicker and cheaper. The smooth steel imparts a smooth finish to the concrete, eliminating hand finishing.

Blaw-Knox Forms are built for long service; quick installation and dismantling; and are rigidly braced to hold their position when being filled with concrete.

Blaw-Knox Catalog No. 1527 shows how any design or cross section of work can be accommodated with Blaw-Knox Steel Street Forms. We'll gladly send you a copy.

BLAW-KNOX

BLAW-KNOX DIVISION of Blaw-Knox Co.
FARMERS BANK BLDG. PITTSBURGH, PA.

34

BLAW-KNOX BINS AND BATCHERS · ROAD FORMS · STREET FORMS · CONCRETE SPREADERS · TAMPING ROLLERS · VIBRATORS · CONCRETE BUCKETS · CLAMSHELL BUCKETS · TRUCK MIXERS · STRIPING MACHINES · TURNTABLES · ROAD FINISHERS · STEEL FORMS

CUT MAINTENANCE COSTS 75%

Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Koehring Mud-Jack raises sunken concrete . . . walks, curb and gutter, driveways, streets, highways, etc., eliminating reconstruction costs. Write for the new Mud-Jack Bulletin illustrating applications and describing the Mud-Jack Method.

KOEHRING HEAVY DUTY

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MUD-JACK METHOD

Peekskill, N. Y., with a net meter income of $15,600 (police traffic expenses) and White Plains, N. Y., with a net meter income of $25,000. Bronxville, N. Y., uses its entire net meter income, $12,500, for traffic purposes, although this is not required by ordinance. Portland, Ore., specifies that its $150,000 net meter income must be used for traffic purposes. Zanesville, Ohio, whose gross meter income is $30,500, uses its net meter returns to pay its police officers, there being no ordinance specification covering the use of these funds. Toledo, Ohio, spends the $128,700 net return from its meters on traffic purposes, although it is not required to do so by ordinance. Chambersburg, Pa., does the same with an unstated amount (Chambersburg's gross meter income is $14,840.19). Pittsburgh, Pa., whose gross meter income is $37,000, has a special traffic ordinance and applies the net meter returns to traffic purposes through a special traffic fund. Butler, Pa., with a net traffic meter income of $14,318.41, applies this money to traffic purposes through a special traffic ordinance. El Paso, Texas, whose net return from parking meters is $39,700, earmarks that money to be spent for traffic. Dallas, Texas, does the same with $135,000 net meter income.

Thus the indications are quite definite that much of the parking-meter revenue is beginning to find its way back into measures designed to improve conditions for the parker, who pays this tax. It is the definite belief of this writer, a belief which is shared by many traffic engineers and municipal authorities, that parking-meter revenue is one of the more logical sources of the funds necessary for solving the parking problem for good and all. It is certain that restricted parking, privately owned parking lots and parking meters do not represent the final solution of the parking problem. That solution, in the opinion of traffic engineers, will come only with the provision of municipally owned, off-street parking facilities wherever conditions indicate that they are necessary. Such facilities should consist of either well-designed and landscaped parking lots or "car dormitories," parking garages constructed at strategic locations, perhaps beneath municipal buildings and streets.

The sooner our downtown districts in many cities are provided with these facilities, which will completely obviate the necessity of driving round and round the block looking for a place to park, relieve the congestion on overcrowded streets, and speed-up the flow of traffic, the better. Because these improvements are of the long-term variety in many cases, necessitating the purchase of expensive sites and considerable building construction and landscaping, they are not likely to come about in a day. However, steps are being taken toward the realization of just such facilities in many cities. The sooner John Q. Public has definite assurance that his parking-meter coins are being spent to plan for the future and relieve present parking conditions, the sooner he will cease his too-frequently heard complaint.

"Oh, I'll admit that parking meters save me time and trouble, regardless of what happens to the revenue. I've discovered that I save, in gasoline and in time alone, more than the small fee. But it seems to me that the coins that go into parking meters are a pretty specialized form of revenue. They come from motorists alone, and not even from all motorists, but only from those who park in metered districts. How much of that money is being spent to relieve the parking problem that was originally responsible for parking meters and parking restrictions, anyhow? How much is being diverted to other purposes? Don't forget that I pay all the taxes that everybody else pays, plus the parking meter levy. I think I should feel better every time I drop my coin in the parking meter slot if I knew that that money was being spent to make parking easier for me in the present and in the future."

One Taxicab Per 2,000 Population Called Economic Ratio

THERE are now about 65,000 taxicabs in operation throughout the United States carrying about 780 million passengers per year. Many cities have more than one operator.

In 91 cities all over 100,000 population and comprising the largest group as listed by the United States 1940 Census, there were in operation a total of 32,384 taxicabs, giving service to a total population of 37,736,608. This figure compares with 37,420 cabs in the same 91 cities in 1939, a reduction of 5,036. In these 91 cities, population per taxicab is 1,165. But if New York and Chicago are deducted from the total, the ratio is one cab for each 1,500 population. In 391 various cities, large and small, comprising a population of 48,124,120, there were in operation 37,841 cabs, an average ratio of one cab per 1,270 population. In these 391 cities there were 5,191 fewer cabs in operation than in the previous year.

The average ratio of taxicabs per 1,000 population in major cities figures out one cab per 635 population in New York, one per 1,300 in Chicago, one per 3,290 in Philadelphia, one per 504 in Boston, one per 854 in Baltimore, one per 1,145 in Cleveland, one per 2,661 in Pittsburgh, one per 2,350 in Milwaukee, one per 2,362 in Detroit, one per 3,440 in Los Angeles, one per 2,318 in St. Louis.

In New York City, the center of the business, the number of cabs in service decreased from 12,300 to 11,600, probably the largest percentage of reduction.

In taxicab manufacture it marked the stoppage of manufacture by General Motors of the specially built-for-the-purpose taxicab and the advent of Packard into the field in a limited way. The two chief manufacturing concerns were Checker Cab, of Kalamazoo, whose output was over 4,000, the greatest number in several years, and Chrysler, which placed on the market a special De Soto for taxicab purposes.

In the larger cities the average cab driver is a man around forty who has made the job a permanent one through organization, and the unions vary between CIO and AFL affiliation.

Labor leaders recognize that added compensation and better working conditions in many cities are linked up with the subject of the limitation of the number of cabs permitted to operate in the city, and adequate rates of fare to furnish the proper equipment for the operator and a reasonable rate on the investment. The compensation of the cab drivers in cities where there is no limitation, or where "zone" or low flat rates exist, is generally lowest.

The 19 cities limiting cabs do so in diverse fashions. Cincinnati holds public hearings at which the Commissioner of Public Utilities decides on public convenience and necessity. In Los Angeles it is the discretion of the governing body; in Baltimore it is set by ordinance. Numerous cities base the limit on a certain ratio between the number of cabs and the population, but they are in disagreement on the number. Indianapolis specified one cab per 1,000 people; Milwaukee, one per 1,750; Denver and San Diego, one per 2,000; and Seattle, Portland, and Wichita Falls, Texas, one per 2,500. Tulsa has a fraction more than

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Here is the remedy for your traffic problem. Install MILLER METERS and you assure greater safety, more business for your city, whether large or small. The flexibility of rate combinations makes the MILLER METER ideal for any and every community. Its durability under all weather conditions has been proven in the many cities where it is now in use. A minimum of policing is required by the MILLER METER because of its great visibility both day and night. Keep your city progressive and modern—write for our descriptive literature that fully explains and illustrates the outstanding features of the MILLER METER.

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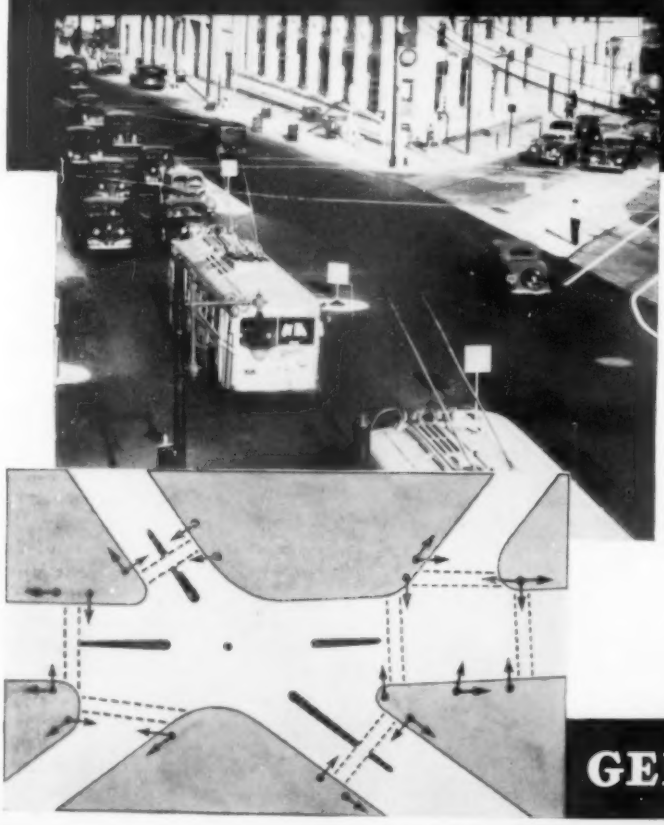
PARKING METER

Moving 36,000 Vehicles Through an Intersection QUICKLY and SAFELY



MOVE 36,000 vehicles a day through a three-street, downtown intersection and you're likely to have traffic jams, irritated motorists, and pedestrians dashing for safety . . . but not in Irvington, New Jersey. Recently the County of Essex completed a G-E traffic-control and signal installation to accelerate the movement of vehicular traffic and provide a maximum of safety for pedestrians. Operating 17 signals, a Type D controller on a 90-second total time cycle clears crossings for a 33-second pedestrian-walk period; yet the maximum vehicular waiting period is only 55 seconds. In addition, a manual switch operates relays separately from the controller to provide *all red—all wait* indications when emergency or fire apparatus approaches the intersection. Better decide on Type D controllers for your next installation. They fulfill every simple or complex traffic need. General Electric Company, Schenectady, N. Y.

GENERAL ELECTRIC
453-7

.1½ cabs per 1,000.

The trend towards restricting the industry was due to efforts to curb cruising or reduce traffic congestion chiefly in the cities of over 500,000 population. The ratio of one cab for each 2,000 population is becoming a set figure in many of the first-class cities outside of New York where the number of cabs is 11,500 and the ratio one cab for about each 600 population. Washington is still the most over-cabbed city in the United States, with 3,109 cabs in service, a ratio of one cab for each 200 population, and where the competition with the street railways and buses is accentuated more than in any other city.

Tulsa, with a population of 142,000, has 235 cabs, while Long Beach, Calif., with a population of 190,000, has 110; San Diego, with 184,000, has 87; Knoxville, Tenn., with 174,772, has 53. Salt Lake City, with 150,000, has 100. Oklahoma City, with 204,000 population, has 248 cabs—only a few more than in Tulsa.

Among those unregulated are Washington, D. C., Dallas, Louisville, El Paso, Atlanta, Long Beach, Knoxville, Little Rock, Galveston, Hot Springs, Paducah, Ky., and Tulsa.

There was an upward trend in rates chiefly in cities where cabs operated on a flat rate, or "zone" basis. Most changes in rates were in initial first charge of "drop" on a taximeter to cover overhead costs. Jitney, or "zone" rates in certain cities involved much irresponsible service as to both equipment and safety responsibility.

In Harrisburg, Pa., the gross for the previous year for the two operators was $48,153, or a per capita revenue of $.60.

In New Haven, Conn., the gross income was reported as $725,000 for 1935, or a per capita of $4.45.

In New York City, the per capita money spent on taxicabs is $5 per annum.

Parking meters, while indirectly affecting the taxicab business, through easing of traffic congestion, grew in number. Reports in the early part of 1940 stated that meters were in operation in 155 cities producing over $3,500,000.

The largest operator of taxis in New York employs 3,800 drivers.

Taxicabs in many cities are cars used for 50,000 miles in a year and then refurbished and made over into "used cars" for sale to private owners.

The average taxi driver generally works about ten hours daily. During that time his actual driving time is less than five hours, giving him about the same time idling or waiting for calls.

Women predominate as taxi riders in the larger cities. The average number of persons carried in cabs with taximeters is about 1¼ person per trip.

In New York City and most cities using taximeters, the average cab trip is two miles and the fare less than 60 cents, not counting tips.

The average taxicab consumed over 3,500 gallons of gasoline in 1940, compared with an average of 725 gallons for private cars.

The drinking water supply in New York City is pure enough for the largest taxicab operator to use in place of distilled water in batteries.

Are Your Traffic Signals Modern?

TRAFFIC REPORTS are saying that traffic signals should move traffic, not stop it. One of the methods of achieving this is by the flexible progressive system whereby the lights are timed successively, so that a car traveling at a certain speed will encounter green ahead throughout the system. This method is of course used by a number of larger cities.

Washington, D. C., for instance, installed its first flexible progressive signals in 1931. At that time 68,000 cars brought people to work and home; now 140,000 cars perform this service, and there are several progressive zones interconnected, with triple offsets to move traffic south between 7 or 8 to 9:30 A.M., and north from 4 to 6 P.M. Eventually there will be central control so that the time cycle can be regulated to suit the traffic conditions of the hour.

Signalizing a Circle

When "People Come First," — to quote the searching title of the new moving picture of the American Transit Association,—many inconveniences and confusions can be ironed out with traffic signals. Washington's radial avenues, which look so simple on a map, tend to make a headache of their intersections.

At Thomas Circle, for instance, 14th and M Streets and Vermont and Massachusetts Avenues, intersect. A year ago Massachusetts Avenue was carried under the Circle, and the signal system was revamped to consist of 18 traffic signals and 38 WALK and DONT WALK signals. In 1939 there had been 45 accidents in Thomas Circle. In 1940 there were 7 accidents. The traffic signals are progressive, and the WALK lights work with the progressive lights.

The traffic on Massachusetts Avenue continues to nearby Scott Circle, which is intersected also by Rhode Island Avenue and 16th Street. These three streets carry respectively 35, 27 and 38 per cent of the traffic. Here again a signal system has been installed which has made this Circle navigable by both cars and pedestrians. A further improvement will be achieved by underpassing 16th Street.

Dont Walk

The WALK and DONT WALK signals, tentatively tried in Washington three years ago, have received reasonably good observance by pedestrians who have learned that when WALK shows, no right or left turn will be made against them. There are 80 of these signals now. Most WALK signals are too small; but these are about 8 inches high and easily discernible.

Channelization

Washington's street system forms many complicated intersections, a number of which have been channelized or redesigned. At the intersections of Vermont, S and 11th, there used to be an average of 13 accidents per year. During the last year, after channelization, there was one accident, and it is said that occurred during a period when the traffic lights were out of service.

Neon One-Way Signs

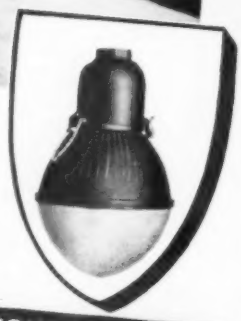
Periodic one-way streets in Washington are to be marked by neon arrows stating ONE WAY, the arrows pointing south in the morning rush hours and north in the evening rush hours. W. A. Van Duzer, Director of Motor Vehicles and Traffic, reasoned that as neon was successful for commercial advertising, it should instantly indicate to motorists those one-way streets which are one way in the morning (south) and the other way in the late afternoon.

These are modern traffic measures, designed to facilitate the movement of people afoot and in vehicles. Some towns have only one dangerous or intricate intersection, others several, others more. Things can be done about them in these days.

Literature on the latest improved types of signal equipment for facilitating traffic can be secured by writing to THE AMERICAN CITY, 470 Fourth Avenue, New York.

LOOK at LORAIN

Relighting to Prevent Nighttime Accidents



Night traffic moves swiftly and safely on East Erie Avenue where 128 Form 79R incandescent luminaires with 6000-lumen lamps are installed. Units are mounted 23 feet high with 200-foot staggered spacing. Form 79R's are recommended for the majority of street and highway applications. They use a Holophane refractor to obtain well-controlled, highly efficient light distribution.

Form 81D luminaires are installed on South Broadway where higher levels of illumination are required. More uniform pavement brightness assures excellent visibility by the motorist, because cars and pedestrians are seen more clearly in silhouette. Units with 10,000-lumen lamps are mounted 25 feet high with 100-foot opposite arrangement.

Excellent lighting on East 28th Street with Type M-2 10,000-lumen sodium luminaires. Units are mounted 25 feet high with 200-foot staggered arrangement. The low brightness of the large light source improves visibility, and although the light is monochromatic, it is not objectionable on city streets that carry principally vehicular traffic.

LORAIN, OHIO, is relighting its main and residential thoroughfares to *prevent* accidents, rather than waiting until a nighttime death or serious injury forces action. Beginning in 1937, when 34 G-E sodium luminaires were installed to demonstrate modern traffic-safety lighting, Mayor Harry G. Van Wagnen has co-operated with the Ohio Public Service Company to make Lorain one of the best-lighted cities of its size in the country. More than 10 miles of new incandescent and sodium lighting has been installed in the last three years, and an additional two more miles is planned for 1941.

THE RESULTS? (1) Double the illumination on the street surfaces, and more uniform pavement brightness—two important factors that greatly increase safety and facilitate the movement of night traffic. (2) Driving habits at night definitely improved, especially in the industrial section where a large number of steel-mill employees leave their work after midnight. (3) Night accidents reduced, because accurate, split-second seeing prevails on Lorain's thoroughfares.

THE INCREASE IN COST? It's negligible because *today's* G-E incandescent luminaires direct 115 per cent more of the light on the roadway. Wasteful skyward and house-side light is eliminated. G-E sodium lamps have an output of 55 lumens per watt, or nearly three times that of an incandescent lamp.

Why shouldn't you provide safe lighting and seeing if it reduces night accidents? Saving lives isn't expensive if you use the most effective equipment in the most effective way. A G-E lighting specialist will be glad to study your accident situation and make recommendations without obligation. Call the nearest G-E office. General Electric, Schenectady, New York.

LORAIN'S MAYOR VAN WAGNEN WRITES:

The streetlighting modernization program is designed primarily to afford safer night driving for motorists in an era of increasing use of the automobile, and to protect pedestrians who must walk our streets after sundown. A secondary objective, but an important one, is the appearance of our streets at night. Dark avenues of travel and dark sidewalks are not inviting to the citizens of any city. Lorain prefers to encourage its citizens to "come downtown" over properly lighted streets for an evening of shopping or entertainment.

GENERAL ELECTRIC

454-10A-3010

Outdoor Lighting

Streets—Highways—Floodlighting

The Need for Good Street Lighting

By F. Victor Westermaier
1940 Chairman, Street and Highway Lighting Committee,
Illuminating Engineering Society

INSURANCE has come to be recognized as a necessary complement of the progress of civilization. This is more generally appreciated by the individual than by groups, for the reason that the obligation to provide against loss is direct, personal, rather than indirect or impersonal.

The most elementary and highest type of insurance is in the form of compensation to beneficiaries against the loss of the life of the insured Then follow the other forms, health accident, fire, theft, liability, casualty etc.

Life insurance is obtainable only after careful examination of the physical condition and heredity of the applicant. On the basis of cost and compensation, it has demonstrated the value and importance of scientific analysis, foresight and regulation.

Public safety is a form of insurance for the protection of the life and property of the community as a group, and is paid for by all the taxpayers. It provides essentially for policing, fire protection, sanitation and the regulation of traffic on public streets and roads.

When wisely administered, the compensating return to the insured, the taxpayer, is in the keeping-down of crime, losses by fire, and the maintenance of generally good health conditions throughout the community. There is, however, a notoriously weak link in the chain of public protection: namely, inadequate measures to combat the appalling losses in lives and personal injuries on the public streets.

Statistics prove that with the increase in motor transportation these losses have amounted to the proportions of major catastrophes. By analysis of traffic accident records, we find that 60 per cent of the fatalities occur during the hours of dusk and darkness, when the volume of traffic is less than one-half, possibly only one-third, of what it is during the daylight hours.

The elegant but wasteful clusters (right) are superseded by the high-mounted light-utilizing luminaires (left)

The continuation of this condition over the years without apparent improvement, in striking contrast with the advances made in other lines of public safety, is an indication of the need of constructive study, planning and action.

To traffic engineers and engineering is due the credit for bringing order out of chaos when the rapid development and use of automobiles revolutionized transportation methods. Through analysis of the conditions, regulations controlling the movement and direction of street traffic were formulated to meet them. Signal systems became recognized essentials for the proper and safe movement of vehicles at traffic intersections.

In time these measures, together with other traffic safeguards, checked the upward trend of daylight traffic accidents, and in more recent years the trend in a number of cities has been downward. The absence of similar improvement in night accident trends cannot be attributed to deficiencies in traffic engineering, nor to failure on the part of motorists to comply with established rules and regulations. The records of night accidents usually enumerate the known causes, but these seldom, if ever, account for as much as 50 per cent of the accidents. Therefore, in the majority of cases, extended, specialized study was required.

As a result of such study, the most obvious and logical conclusion was reached that the principal cause was lack of visibility for motorists and pedestrians due to the inadequate lighting furnished by existing street lamps. Under daylight, all the attributes for visibility are present, and when accidents occur, the causes are always other than the absence or inadequacy of light. At night, the process of seeing is of quite a different order. Even under good artificial lighting, the natural, almost instantaneous, reactions to confronting conditions are unreliable and unsafe. If the eye cannot get the true picture instantly, the accuracy of judgment for safe reaction to the impending impact is dangerously limited.

Automobile headlamps are essential safety factors required and regulated by law, but are extremely limited in providing all-around visibility of the order required under usual street traffic conditions. If all traffic on a street was in a single direction, each intersection guarded with traffic signals, and there were no pedestrians, there might

MODERN STREET LIGHTING PROVES A *LIFESAVER* in CHATTANOOGA

● Chattanooga's modern street lighting system paid a whopping dividend during its first year of service. In 1940, not a single after dark fatality occurred in the heavily traveled downtown areas or on their busiest arterial highway. In 1939, prior to this installation, 3 lives were snuffed out on these streets after sundown. This was a contributing factor to Chattanooga receiving recognition from the National Safety Council as having the fewest number of fatal auto traffic accidents of any city its size in 1940.

A total of 450 Union Metal *steel* standards have been installed to date, as a part of Chattanooga's street lighting modernization program. All are designed to mount the luminaires at the proper height required to obtain complete curb-to-curb visibility. Their all-steel construction assures the city of low-cost maintenance and long life. As to the appearance angle, Mr. S. R. Finley, General Superintendent of the Electric Power Board, writes: "The Union Metal standards, used exclusively . . . have added much to the appearance of Chattanooga's street lighting system on these streets."

Our experienced engineers will be glad to show you how modern Union Metal *steel* standards can be incorporated economically in your 1941 street lighting plans.

Arterial type—Design No. 6219-Y55

THE UNION METAL MANUFACTURING CO.

CANTON UNION METAL OHIO

Business district type—Design No. 5805-X23

be an almost total elimination of night accidents without making necessary any major changes in existing street-lighting systems. The regulations governing traffic movement, equipment and inspection of motor cars and drivers would then be sufficient insurance for street safety.

But the actual conditions clearly require that our standards of street-lighting practice must be revised to meet the demonstrated needs of night traffic safety. Toward this end, the Street and Highway Lighting Committee of the Illuminating Engineering Society has directed its efforts for more than 15 years. The latest pronouncement representing the consensus of the traffic, safety and illuminating engineers constituting that committee has recently been published. It is a constructive up-to-date review of the underlying principles of street lighting, with recommendations, based on experience, for obtaining qualitatively and quantitatively the degrees of illumination for the visibility needs of city streets, classified as to traffic flow and other characteristics.

Traffic safety engineering is helpless to meet the challenge of increasing night traffic accidents without the aid and cooperation of all public safety services. Of these, the most important has been demonstrated to be street lighting of a character and degree necessary to provide the visibility so vitally essential to the safe use of streets.

When the importance of this coordination of safety services is realized and put into effect, the present avoidable losses in lives, personal injuries and property will be converted into real economic gains, thereby constituting public insurance of a high order.

LOW STREET VISIBILITY DEMANDS HIGH PREMIUM RATES—GOOD VISIBILITY PAYS DIVIDENDS.

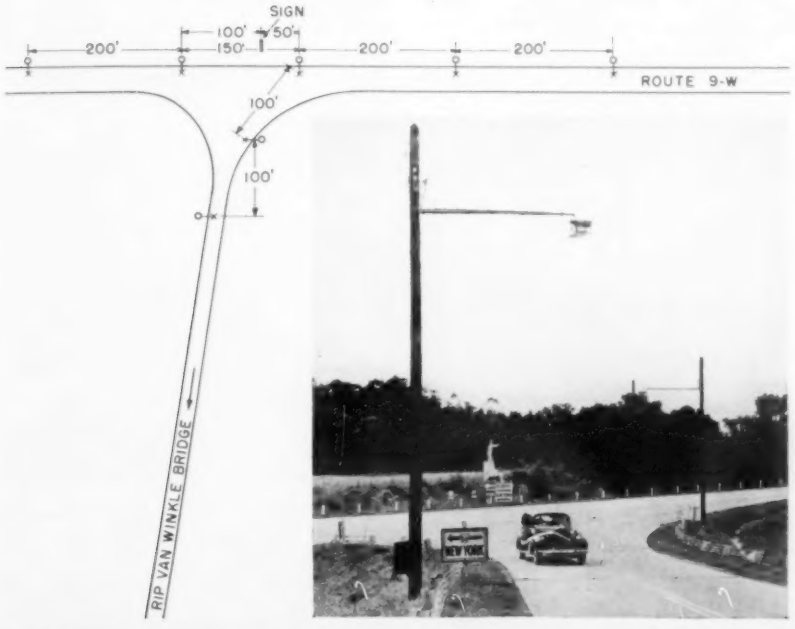
Sodium Lights a Busy Catskill Corner

By FRANCIS M. GLYNN
Secretary,
New York State Bridge Authority

SODIUM lighting is now being used by the New York State Bridge Authority at the intersection of Route 9-W and the approach highway to the Rip Van Winkle Bridge in Catskill, N. Y. The lighting has been provided to direct the attention of night motorists to the bridge and to help safeguard this busy intersection.

Seven lights were installed under the supervision of the Central Hudson Gas & Electric Corporation. They burn 10,000-lumen General Electric sodium lamps in open-type airplane reflectors. The arrangement of light poles is shown in the sketch and photographs. Mounted 25 feet from the pavement to light center, the lights are supported on 12-foot mast-arms which extend the lights about 5 feet out over the pavement.

We have had expressions of satisfaction from the traveling public, and we feel these lights add to safety and comfort. In August, 1940, 79,293 automobiles used the Rip Van Winkle Bridge, against 62,398 in August, 1939. What part of this 27 per cent increase may be ascribed to these sodium lights cannot be computed; but the increase was beyond our farthest expectations.



Approach Intersection to Rip Van Winkle Bridge

Controlite, Jr.*

The NEW L-M street lighting luminaire that gives you

EFFECTIVE LIGHTING
ORNAMENTAL APPEARANCE
LOW COST OF OPERATION

** Shown with pressure latch — also available with wing nut latch and hinge*

To the municipal executive of the city of from 50,000 to 100,000 population the new Controlite Jr. Luminaire answers a long felt need. For here is an inexpensive luminaire whose distinctive appearance and effective, even distribution of light compare favorably with the larger and costlier luminaires used on large city boulevards. Yet the low original cost of the Controlite Junior and its low operating cost offer savings that adapt it perfectly to the economical street lighting budget.

No matter how large or small your community, if you are planning a distinctive appearing and effective lighting installation for an important thoroughfare of medium width, by all means get acquainted with the advantages and the economies the L-M Controlite Junior Luminaire offers you. Your Line Material representative will gladly give you the details.

LINE MATERIAL COMPANY

GENERAL OFFICES • MILWAUKEE, WISCONSIN

LM

Correct Protective Lighting for Plants

THE most effective means for protecting industrial plants against sabotage are fencing, screening, and illumination, said Arthur H. Crowell, New York representative of the FBI, at the New York meeting of the American Institute of Electrical Engineers and the Illuminating Engineering Society on February 25. By far the most important means is illumination, said Mr. Crowell.

David H. Tuck, of the Holophane Co., then talked on good practice in protective lighting. The technique of protective lighting to prevent mischief has long been known—as yard lighting outside the plant and watchman's lighting inside. During the last few years, equipment has been developed to do an exceptional lighting job. Mr. Tuck pointed out, however, that neither light nor guard is sufficient; both are necessary. With respect to lighting, there should be no dark strips. For instance, it is not enough to light the fence and not the yard. With respect to the guard, he should remain in one place, with a telephone and a marine type adjustable floodlight. There should be no glare, for what is intended to be glare for the intruder may be made glare for the guard.

The three elements of protective lighting embrace the fence, the yard, and the building interior.

A good fence is of paramount importance, and it should be lighted to 0.15- to 0.25-footcandle (0.025-footcandle is full moonlight, in which a figure can be distinguished 200 feet away). This is the range of intensity being provided. It is obtained with either 6,000-lumen lamps spaced 150 feet apart and mounted at 25 feet or, if a little greater economy is practiced, with 10,000-lumen lamps spaced 200 feet apart and mounted 25 feet high. The costs of the latter system per mile are: to install, $4,000 per mile; to operate, including lamps, cleaning, breakage, energy, $350 per mile per year.

The high mounting height vastly reduces glare, which would be 13.1 at 10 feet against 1.4 at 25 feet.

For cleaning purposes, the units are equipped with disconnecting hangers made by the Thompson Electric Co., Cleveland, Ohio, the chain being either along the outside of the pole, or inside the pole and reached by a padlocked door in the pole. The poles should be installed inside the fence, usually 10 feet inside with 2-foot brackets, to avoid shadow and get the light through the mesh of the fence. The poles could be placed 4 feet inside the fence with a 4-foot bracket, so that the light is thrown directly on the fence.

The favorite type of circuit is the 6.6-ampere series, using constant-current transformers of the station, pole, or vault type, in sizes 3 to 30 kw. The usual capacity is 7.5 to 10 kw in order to break up the circuits.

The usual yard lighting is furnished by floodlamps on the building at a height of 25 feet above ground and spaced 200 feet apart. There must be a lamp on every corner of the building. It is important also to light all exits and loading platforms. Holophane refractors are available, which will place the light exactly where it is needed and bend it away from areas where it is not wanted.

The protective lighting inside the plant must be on all the time through the night. The old method of having the watchman turn the light on when he enters a section and turn it off when he leaves clearly indicates where he is. Where a plant is lighted by mercury lamps interspersed with incandescents, the incandescent lighting alone can constitute the protective lighting. An intensity of 0.25-footcandle is sufficient.

American plants are of course not prepared for blackouts. The way to do it, however, is known, and in case it should be done, the guard or watch should be tripled or quadrupled.

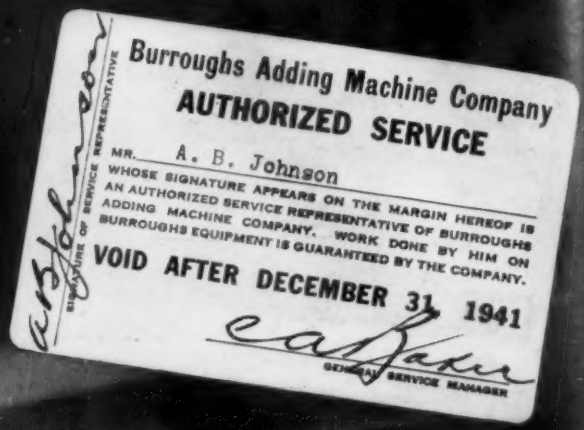
Seeing Marshalltown at Night

TRAFFIC safety lighting systems, designed to provide adequate night visibility of a type needed by the modern night motorist and pedestrian, are being installed in many parts of the United States in an effort to cut night accident and death rates.

These pictures show lighting along Main Street in Marshalltown, Iowa, before and after modernization of street lights on this thoroughfare. The "before" picture shows the "ball-cluster" type of lights and lighting. The "after" picture shows the new pendent-type luminaires and the pavement brightness they provide for safer night driving and walking. The new lights are mounted on metal standards spaced 100 feet apart along the sides of the street, and opposite across the street. Two luminaires, each containing a 500-watt incandescent lamp, are mounted on each standard, about 22 feet from pavement to light center.

Above—Before the modernization of lighting on Main Street, Marshalltown, Iowa. Below—The new pendent-type luminaires make driving and walking safer

THIS LITTLE CARD OFFERS
SO MUCH PROTECTION
TO BURROUGHS USERS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Prepared by
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Author of "The Law of City Planning and Zoning"

Zoning and Planning Notes

With the cooperation of
EDWARD M. BASSETT
Author of "Zoning" and of "The Master Plan"

Zoning Ordinance—Filling Stations—Traffic Hazards

FLORIDA.—*Ficht v. McMullen*, Supreme Court, April 10, 1940, reported in 195 So. 610. This is a mandamus proceeding to compel the Building Inspector of the city of Clearwater to issue a permit for the construction of a filling station. The zoning ordinance provided that no use should be allowed for purposes "calculated to create a public nuisance, unduly to increase fire hazard or traffic congestion or to endanger the health, morals or general welfare of the city of Clearwater."

The Building Inspector alleges that there was a large volume of traffic in the neighborhood of the location sought for the filling station, churches and recreation parks were nearby, and therefore the station would be a serious menace and danger to pedestrians using the sidewalks.

In granting the mandamus, the Court says in part:

"The allegations . . . appear to be based principally upon the hypothesis that the traffic ordinances of the city of Clearwater would probably be violated by persons operating automobiles who desired to enter the filling station, and that persons driving automobiles entering the proposed station would disregard the rights of pedestrians. The allegations are not sufficient to show that if the operators of the automobiles complied with the ordinances of the city and operated their automobiles in the manner required by law, the filling station would be calculated to create a public nuisance, unduly to increase fire hazard or traffic congestion, or to endanger the safety, health, morals or general welfare of the city of Clearwater.

"The . . . return is insufficient to show that the relators will unlawfully use their property if permitted to erect a gasoline filling station thereon or that such use of the property will constitute a nuisance."

Zoning Amendment

NEW YORK.—*Tralow Realty Corporation v. Murdock and others constituting Board of Standards and Appeals of City of New York*, App. Div., January 17, 1941. Not yet reported.—The Tralow Realty Corporation is the owner of land formerly in an unrestricted use district in which gasoline service stations are allowed. In June, 1938, the City Planning Commission adopted a resolution placing this land in a residential use district in which such stations are forbidden, and filed the resolution with the Board of Estimate. Under the law in New York City, such a resolution goes into effect unless disapproved by the Board within 30 days of filing. In this case there was no such disapproval; the zoning resolution amendment became effective in July, 1938.

In 1937 the owner of the land had filed an application for a permit for the construction of a gasoline service station, and a fire prevention application for the installation of gasoline storage tanks. No certificate of occupancy has ever been issued. Certain other necessary certificates such as certificate of Workman's Compensation insurance, for plumbing, for curb cuts, etc., were not issued. Building and fire prevention certificates were, however, given. Forty-eight hours before the amendment to the zoning resolution mentioned above placing the land in question in a residential district became effective, the landowner sank in his land six gas tanks at an expense of $900. No garage was ever built. On these facts the Superintendent of Buildings issued building and fire prevention permits. These permits were revoked by the Board of Standards and Appeals, and the Court upholds the action of the Board.

Whether the Superintendent of Buildings was without any power whatever to issue permits for the construction of the gasoline service stations after the adoption of the resolution by the City Planning Commission, and during the 30-day pendency of this resolution before the Board of Estimate, the Court does not decide. It does hold that the Realty Company acquired no vested rights by hastily installing the tanks on the eve of the effective date of the zoning amendment forbidding such installation, and without the requisite permits.

EDITOR'S NOTE.—This case, although involved in its facts, is of interest in connection with the question so often raised of the effect of an amendment of a zoning ordinance upon permits previously issued.

It is clear that a permit is not a contract. It cannot be revoked at the whim or the discretion of the Building Commissioner; but it is subject to the police power of the community, and therefore may be annulled by a subsequent ordinance duly passed by the local legislature. If, however, the holder of the permit in good faith has made substantial expenditures in reliance upon the permit, the new ordinance is not as a rule interpreted as a revocation of such permits.

Whether an ordinance clearly showing an intention to revoke such a permit may legally have this effect would seem to depend upon the reasonableness, under all its circumstances, of such action. This would be analogous to an attempt to abolish a non-conforming use. Such attempts have been sustained by the courts when the burden upon the property owner was not too heavy. The reader will remember the Hadacheck case in California in which a brickyard was ousted from a residential district,[1] and the more recent Louisiana cases, ordering the removal in a residential district of inexpensive business buildings within nine years, in which time, the Court intimated, it would be reasonable to suppose that they could be amortized.[2] So, too, the continuance of non-conforming use of vacant land has been prohibited.[3] These cases would seem clearly to be right. The police power is vital to the well-being of the public, and cannot be abridged by any action previously taken by the public authorities, nor can the state, by gift or by contract, part with any portion of the vital right.

More difficult is the question whether the local authorities can delay the issue of a building permit on the ground that an amendment is pending which, when passed, will make the granting of such a permit unlawful and its issuance against the public interest. Any citizen, acting in good faith, would seem to be entitled to the benefit of the law as it is; moreover, who can say that the pending amendment will actually pass? There is a tendency, however, to allow delays in such cases[4] especially if the applicant for the permit, knowing that the amendment is pending, is evidently doing his utmost to get in ahead of it. This is apparently the feeling of the Court in the present case.

[1] *Hadacheck v. Sebastian*, 165 Cal. 416, 132 P. 584, 239 U. S. 394, 36 S. Ct. 143 (1915).

[2] *Dema Realty Co. v. Jacoby*, 168 La. 752, 123 So. 314 (1929). *Dema Realty Co. v. McDonald*, 168 La. 172 (1929).

[3] *People v. Wolfe, N. Y. Law Journal*, January 30, 1936, App. 248 App. Div. (N. Y.) 721 (1936 Bazinsky v. Kesbec Inc. 259 App. Div. (N. Y.) 467.

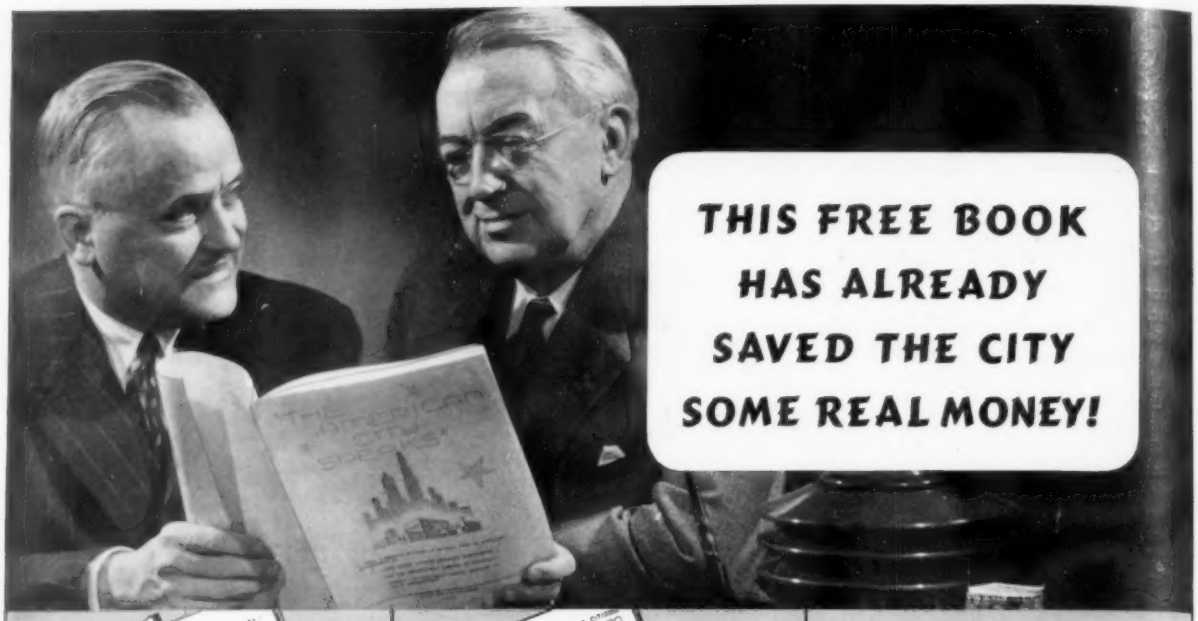
[4] See the Louisiana case of *State ex rel. Shaver v. Mayor and Councilmen of Town of Coushatta*, summarized in our Notes for October, 1940. In that case the Court intimated its approval of a clause in the ordinance providing that no building permit should be issued authorizing the construction of a business building in a residential district to be created during the 30-day period in which notice of public hearing is being given by publication.

Appeals Board—Variance

NEW YORK.—*Seinfeld v. Murdock and others constituting Board of Standards and Appeals of City of New York*,* Appellate Division, reported in 20 N. Y. S. 2d. 464 (1940).—The property in question was located on the west side of the Grand Concourse, a major highway, between 180th and 181st Streets. The owner applied to the Board of Appeals for a variance permitting stores along the ground floor frontage, which was refused. The west side of the block had two buildings to the north of the petitioner's, on both of which variances for business uses had been granted. The building to the south, at the corner of 180th Street, had not yet received such a grant. By reason of pre-ordinance nonconforming uses plus variances, all the frontage on the Grand Concourse from 181st Street to 188th Street had business uses. The territory south of 180th Street was still exclusively residential in use. The Board's refusal was based upon the determination to make petitioner's lot the boundary line. This determination was upheld by the Court. . . .

EDITOR'S NOTE.—In this report, quoted, the heading is "*By granting and withholding variances, Board of Appeals may establish boundary line between apartments with stores and apartments without stores.*"

* From American Society of Planning Officials *News Letter*.



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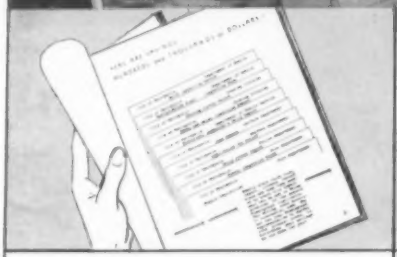

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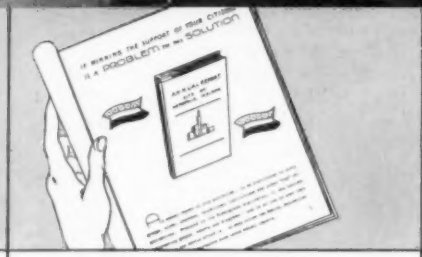

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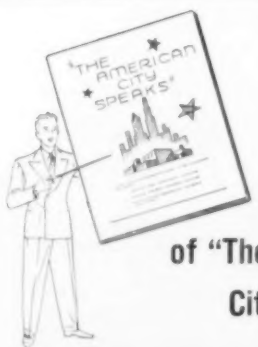

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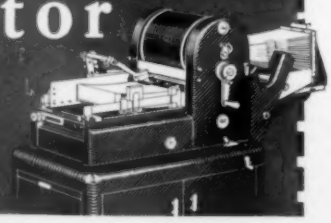

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Municipal Law Notes and Decisions

Prepared by National Institute of Municipal Law Officers, Washington, D. C.
Charles S. Rhyne, Executive Director, and John A. McIntire, Consultant

Gasoline Service Stations —Regulation of by Cities

On December 31, 1940, the New York Court of Appeals held that a New York City local law restricting the size, placement and number of signs to be posted in filling stations for the purpose of advertising gasoline is a proper exercise of the police power and does not dent equal protection of the laws, since it affects all in a given class alike. *People of New York v. Arlen Service Stations, Incorporated.* The Supreme Judicial Court of Massachusetts rendered a similar decision in *Slome v. Chief of Police of City of Fitchburg*, 4 Municipal Law Journal 140.

One of the constant problems of many cities is how far can the city go in regulating gasoline service stations. The large number of such stations makes this problems all the more important. We have made a study of the court decisions on the subject and have broken them down into seven general classifications.

I. Location and Maintenance

There are quite a number of cases recognizing the right of cities to license and regulate the location and maintenance of gasoline service stations. In *Fletcher Oil Co. v. Bay City*, 247 Mich. 572, 226 N. W. 248 (1928), the Court held valid as a proper police power regulation an ordinance regulating the location and maintenance of gasoline filling stations and granting of licenses therefor. The ordinance provided for the granting of a license for gasoline filling stations when in the judgment of the City Commission, by reason of traffic conditions or fire or explosion hazard, a filling station would not imperil public safety, and for the refusal of a license when it would constitute such a menace. Gasoline filling stations were made subject to inspection by the chief of the Fire Department at all reasonable times. Inspection of such stations at least once a year was required. It was provided that the Commission might require such inspection and approval by the chief of the Fire Department as to fire and explosion hazards before granting any license. A $10 per year fee for each filling station pump standard at drive-in-stations and $15 for each single filling station pump standard at curb stations was imposed.

In *Crescent Oil Co. v. City of Minneapolis*, 175 Minn. 276, 222 N. W. 6 (1929), the Court held that the general police power of the city authorized regulation and licensing of gasoline filling stations, but held unreasonable in amount a license fee of $100 for each station plus $5 per pump.

In *City of Fort Worth v. Gulf Refining Co.*, 55 S. W. (2d) 792 (Tex. 1933), the Court in upholding a general licensing ordinance applicable to gasoline filling stations said:

"The operation of a gasoline filling station is a business of such a nature as to render it subject to reasonable regulation under the general police power accorded to cities. . . ."

See also *Starkey v. City of Longmont*, 91 Colo. 387, 15 P. (2d) 620 (1932); *Martin v. City of Danville*, 138 S. W. 629 (Va. 1927); *Morgan v. City of Collingswood*, 139 Atl. 718 (N.J.L. 1927); *Harrison Warren Realty Co. v. Spencer*, 209 N. Y. S. 355, 124 Misc. 783; and *Foss v. Wexler*, 242 Mass. 277, 136 N. E. 243.

II. Discretion in Granting Licenses

In many of the ordinances which have been adopted by cities licensing and regulating the location, operation and maintenance of gasoline filling stations, discretion is lodged in the City Council to grant or deny applications for such licenses. In *Standard Oil Co. v. City of Minneapolis*, 163 Minn. 418, 204 N. W. 165 (1925), an ordinance prohibiting erection of buildings to be used as gasoline filling stations without a permit from the City Council, was upheld. The evidence was that the permit was denied because the station would interfere with traffic on the streets and increase fire hazards. The proposed site of the station was at the intersection of two heavily traveled streets, and on the opposite side of the street were a chapel, a garage, the YWCA and a high school athletic field.

In *State ex rel. Lane v. City of Spokane*, 129 Wash. 646, 225 Pac. 647 (1924), an ordinance was held valid which provided that the City Council may grant permits for the erection and maintenance of gasoline service stations "as public interests may require."

See also *Kramer v. City of Baltimore*, 171 Atl. 70 (Md. 1934); *Starkey v. City of Longmont, supra; Hawkins v. City of Red Cloud*, 123 Nebr. 487, 243 N. W. 431, app. dis'm. 289 U. S. 704, 53 Sup. Ct. 659, 77 L. ed. 1461 (1933); *Holley v. Sunderland*, 110 Conn. 80, 147 Atl. 300.

It has been pointed out, however, that the vesting of such discretion in a city council or board under ordinance provisions allowing arbitrary action renders the ordinance invalid. *Bizzell v. City of Goldsboro*, 192 N. C. 348, 135 S. E. 50 (1926), and *San Antonio v. Zogheil*, 70 S. W. (2d) 333 (Tex. Civ. App. 1934).

The conclusion from these cases is that in drafting ordinances vesting discretion in the city council to either grant or deny licenses for gasoline service stations, some standard should be prescribed in the ordinance to avoid the charge that it allows arbitrary action in granting or denying licenses. The standard used in *State ex rel. Lane v. City of Spokane, supra*, might be sufficient in many cases, but ordinances should go much further and provide that in granting or denying such licenses the city council must consider traffic, fire, explosion, and other hazards which might be created by the proposed station, in addition to the general public interest. In actual practice also it is expedient if in granting or denying such licenses the city council will make a finding of facts upon which it acted, since such a finding, if based upon substantial evidence, will rarely be overruled by the courts. The cases just cited almost invariably state the rule that administrative action in granting or denying such licenses will be sustained unless clearly shown to be arbitrary and unreasonable.

III. Exclusion from Certain Districts

The courts have considered many ordinance provisions providing either directly or indirectly that gasoline filling stations are excluded from certain named districts of the city. In many instances this exclusion is accomplished by ordinary zoning regulations. In *Western Springs v. Bernhagen*, 326 Ill. 100, 156 N. E. 753 (1927), the Court upheld such a zoning regulation. In *Pocomoke City v. Standard Oil Co.*, 162 Md. 369, 159 Atl. 902 (1932), the Court sustained a city ordinance declaring gasoline filling stations to be a public nuisance and prohibiting such filling stations within a congested business district of the city on the ground that a filling station in that section would tend to increase the fire hazard and endanger the lives of pedestrians. The action of a city council in denying a permit to erect a gasoline filling station in a residential zone was sustained in *Lombardo v. City of Dallas*, 73 S. W. (2d) 475 (Tex. 1934). See also *Leary v. Adams*, 226 Ala. 161, 147 So. 391 (1933); *Wadhams Oil Co. v. Delawan*, 243 N. W. 224 (Wisc. 1924); *People ex rel. v. Murdock*, 268 N. Y. S. 662, aff'd 264 N. Y. 609, 199 N. E. 588 (1934).

An ordinance prohibiting "any more" gasoline filling stations within a named district of the city is unreasonable, arbitrary and void where there are already six stations in such district, and the effect of the ordinance is to create a monopoly for these stations. *Town of Clinton v. Standard Oil Co.*, 193 N. C. 432, 137 S. E. 185 (1927). In *State Bank & T. Co. v. Village of Wilmetta*, 358 Ill. 311, 193 N. E. 151 (1934), an amendment to a city zoning ordinance restricting the use of lots in a district previously zoned for commercial uses so as to preclude the erection of gasoline filling stations, was held unreasonable and invalid under the peculiar facts of that case. The evidence was that the lots were located at the intersection of busy thoroughfares, and their value would be reduced to one-fourth of their former value if the ordinance was enforced. The evidence was also that the amendment was adopted after the application for a permit to erect the station was filed. In *Lews v. Woolheiser*, 352 Ill. 212, 185 N. E. 820 (1933), the Court held that where most of the surrounding property is zoned for commercial use it was unreasonable to zone the plaintiff's property for residential use only so as to prevent erection of a service station.

An amendment to an ordinance having the effect of excluding a gasoline service station from a certain district and from a certain location at which it had already operated for five years, was held invalid in *Standard Oil Co. v. City of Bowling Green*, 244 Ky. 362, 50 S. W. (2d) 960 (1932). Compare opinion entitled "Automobile Wrecking Establishments —Retroactive Zoning Regulations Affecting," Report No. 63 of National Institute of Municipal Law Officers.

IV. Locations Near Schools, Churches, Etc.

Many cities have ordinances excluding gasoline filling stations from locations within a certain number of feet from schools, churches, hospitals, and theaters. In *People ex rel. Love v. McDonnell*, 238 Ill. App. 224 (1935), such an ordinance fixing the distance at 200 feet was sustained. See also *Interstate Oil Co. v City of Orange*, 11 N. J. Misc. 89, 165 Atl. 99 (1933); *Higgs v. Martin*, 164 Tenn. 465, 51 S. W. (2d) 237 (1932); *Newman v. Pagels*, 212 Wisc. 475, 250 N. W. 430 (1933); and *Re White*, 95 Ind. App. 579, 1 N. E. (2d) 873 (1932); and *People ex rel. v. Murdock, supra.*

V. Consent of Adjoining Owners

Many city ordinances provide that no gasoline service station may be erected unless a majority or a named percentage of the property owners within a specified distance of the proposed site of the station give their consent in writing. In the case of *In re Perrin*, 305 Pa. 42, 156 Atl. 305 (1931), an ordinance of the city of Pittsburgh excluding gasoline filling stations from certain districts but allowing such stations with the written consent of a majority of the property owners within 80 feet of the proposed site, was upheld. See the following: *Fish v. Walsh*, 323 Ill. 359, 154 N. E. 148 (1926); *Standard Oil Co. v. Kamradt*, 319 Ill. 51, 149 N. E. 539 (1925). Contra: *Koos v. Saunders*, 349 Ill. 442, 182 N. E. 415 (1932); *Smith v. Barrett*, 81 Utah 522, 20 P. (2d) 864 (1933). See annotation, "Consent of Other Property Owners to Use of Property as Gasoline Station," 119 A. L. R. 1462.

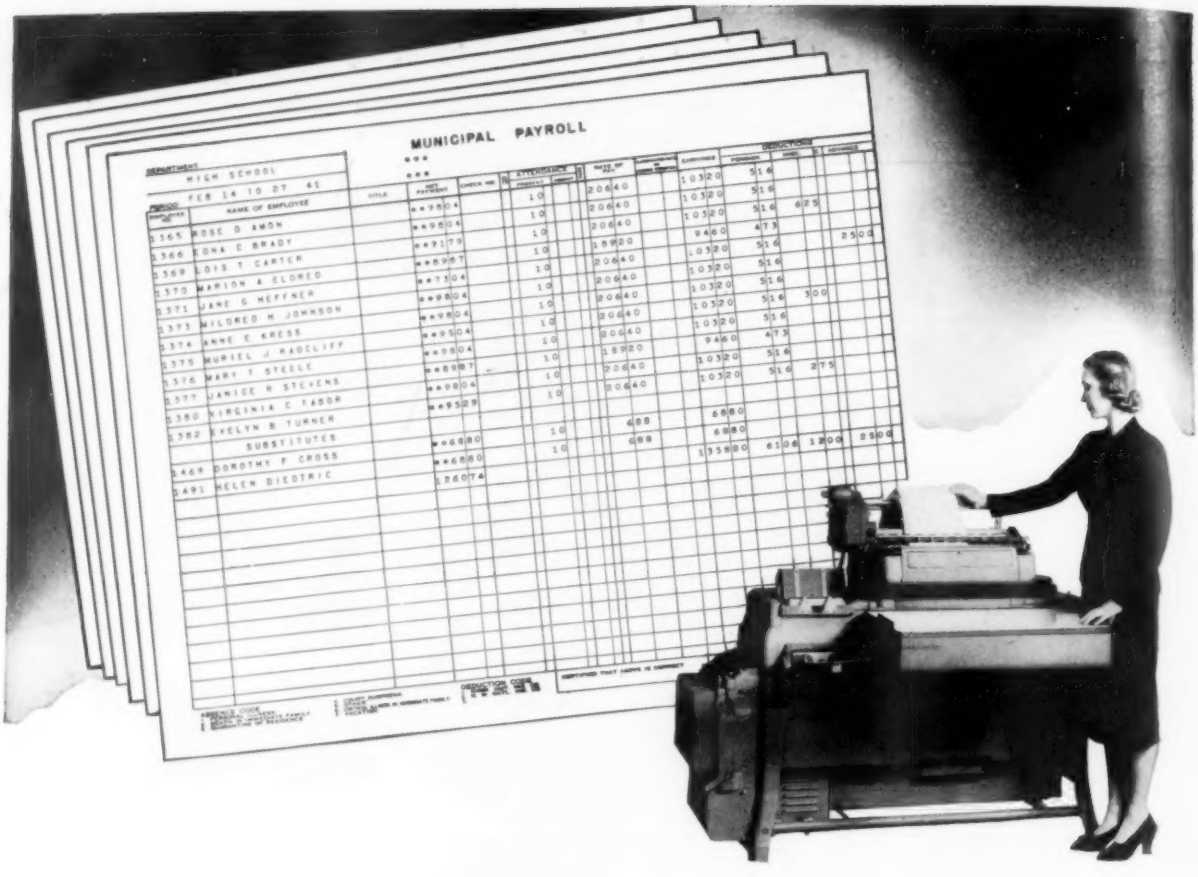
VI. Inspection Fee and Gas Tax

On the validity of an ordinance imposing a yearly inspection fee for all dealers in gasoline, see *Salt Lake City v. Bennion Gas and Oil Co.*, 8 Utah 530, 15 P. (2d) 648 and *Salt Lake City v. Bennion*, 80 Utah 539, 15 P. (2d) 65.

As to city ordinances imposing a gas tax collectible from purchasers of gasoline by gasoline filling station operators, see *Automobile Gasoline Co. v. City of St. Louis*, 326 Mo. 435, 32 S. W. (2d) 281.

VII. Use of Public Property

In the case of *People ex rel. Laprice v. Wolper*, 350 Ill. 461, 183 N. E. 451 (1933), the Court held void an ordinance permitting city-owned property between the store and sidewalk to be used for the location of gasoline station pumps. The Court held that the pumps were an obstruction in the public highway. Also, see generally the annotations entitled "Public Regulation or Authorization of Gas Filling Stations," 96 A. L. R. 1337, 79 A. L. R. 918, 55 A. L. R. 256, 49 A. L. R. 767, 42 A. L. R. 978, 34 A. L. R. 507, 29 A. L. R. 450, and 18 A. L. R. 101.



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Airport Planning

A Plan for the Development of Airports and Airways in New Hampshire.—The Advisory Committee on Air Transportation of the State Planning and Development Commission, Concord, N. H. Published with the cooperation of the State Director of Aeronautics. 1940. 32 *pp.*

Several years of intensive study form the background for this comprehensive, attractive report, which outlines the historical development of aviation in New Hampshire, describes in detail present aeronautical facilities, and outlines present and future air transportation requirements. A five-year plan for the establishment and improvement of 37 fields is presented.

Governmental Research

Research Methods in Public Administration. By John M. Pfiffner. Ronald Press, New York. 1940. *xv* + 447 *pp.* $4.50 *from* THE AMERICAN CITY.

This volume is the first in the field, and will receive a wide welcome. Considered by the author as "exploratory and supplementary," it "synthesizes" a good many research methods in the field of public administration. Under such headings as strategy, planning, interviewing, bibliographical and questionnaire methods, field data studies, preparation of the report, the author describes current techniques and procedures. There are helpful bibliographies on the major questions discussed. The volume should prove particularly valuable to junior research personnel at every level of government—not least the local—where research is becoming important.

PHILLIPS BRADLEY.

Financial Report

Twenty-Second Annual Report, 1939-40, *State Department of Revenue, Frankfort, Ky.* 43 *pp.*

This report provides in non-technical language, in attractive form, and through varied mediums, the sort of exact information a taxpayer should have: the significant facts about the tax and license revenues in tabular and chart form; a lucid summary of legislative and judicial developments; and the plan and results of operations in tax administration and in other activities respectively. Costs are shown not only by taxes administered (and other functions), but also by objects; and certain specialized expense breakdowns are tackled, such as the analysis to indicate how field costs are distributed. The final section of the report is a vigorous plea for giving property taxation a fair chance. A ribbon around the current report has printed on it: "Appendices showing certain data by counties and the assessments of franchise company properties will be supplied on request."

JAMES W. MARTIN.

Community Singing

Song Leadership.—By Homer Rodeheaver and Charles B. Ford, Jr. The Rodeheaver Hall-Mack Co., 124 N. 15th St., Philadelphia, Pa. Apply to Charles B. Ford, Jr., 429 Sterling Place, Brooklyn, N. Y. 1941. 69 *pp.* 50c.

What impresses the non-technical reader in going over this booklet is the great possibilities which group singing holds for any kind of group gathering. Written by experienced leaders who are full of their subject, it lays down in clear, concise and stimulating style, the basic principles and technique of song leadership—the leader's personal qualities, relation to the audience, use of the voice, use of the hands and the rest of the body; and gives many practical suggestions for leading groups in singing.

Water for Fire Fighting

Water Supply for Municipal Fire Fighting.—Jan. 15, 1941, *Bulletin of the Committee on Fire Prevention and Engineering Standards, National Board of Fire Prevention and Engineering Standards, 85 John St., New York. Apply to International Association of Fire Chiefs, 24 W. 40th St., New York.* 4 *pp.*

A brief consideration of what fire departments should know about their water supplies is contained in this leaflet. A quick historical sketch of the relation of the water supply to fire fighting in this country introduces the discussion of those factors which make for the two essentials of a water supply when fighting fires—adequacy and reliability.

Municipal Lighting

Artificial Light and Its Application.—Commercial Engineering Department, Westinghouse Lamp Division, Westinghouse Electric & Manufacturing Company, Bloomfield, N. J. 1940. 296 *pp.*

This comprehensive volume contains four chapters of special interest to municipal officials: Commercial and Public Building Lighting; Floodlighting; Recreational and Sports Lighting; and Street and Highway Lighting. In each case, the amount and type of lighting, type of equipment and its use, are described, with the aid of profuse diagrams and illustrations.

Public Health

Public Health Administration in the United States.—By Wilson G. Smillie, M.D., Professor of Public Health and Preventive Medicine, Cornell Medical College. The MacMillan Co., New York. Second Edition, 1940. *xiv* + 553 *pp.* $3.75 *from* THE AMERICAN CITY.

Since the first edition of this valuable book appeared, five years ago, there has been, literally, a "boom" in public health. Full-time local health departments have increased fourfold, state health departments have been placed on an effective basis, child health activities have been developed in an adequate manner, increased facilities have been provided for the technical training of all types of public health personnel. The book, which takes full cognizance of these developments, is divided into four parts: in the first the functions of a health organization and a discussion of the development of public health administration in the United States are given careful attention; Part II discusses the administrative control of communicable diseases; Part III is devoted to the basic activities of a health organization; and Part IV to the organization of public health programs. This book covers the functions of public health units from a national health service down to the smallest rural health unit, including voluntary health organizations, and disaster relief through the Red Cross, the training of public health personnel, and the all-important subject of public health budgets.

Trends in Legislation

Current Ideas in 1939 *State Legislatures — A Review of Bills Introduced and Laws Enacted During the Year (State Law Digest, Report No. 5). — State Law Index, Legislative Reference Service, The Library of Congress, Washington, D. C. Apply to Supt. of Documents, Washington, D. C.* 1941. 87 *pp.* 10c.

In this review of bills introduced and laws enacted in state legislatures in 1939, the Chapter on State and Local Government is of particular interest to city officials. It gives a quick picture of those aspects of local government which have recently concerned the states, covering the general subjects of administrative organization and rules; planning and boundaries; employees; finance; and political parties, elections and elected officers.

Pollution Abatement

Pollution Abatement in New York Harbor—The Relation of Marine Borers to Changing Conditions of the Harbor Waters.—By Ralph H. Mann, M., Am. Soc. C. E., Engineer, Service Bureau, American Wood-Preservers' Association, New York City.

This booklet of 14 pages, including the bibliography, is available in limited numbers from the author at 858 Lincoln Building, New York. The discussion, tables, and diagrams constitute one of the best reports available on the progress of the abatement of pollution in the waters surrounding New York City, and indicate the possible effect of these changing water conditions on infestations of marine borers.

Roadside Development

Roadside Protection.—American Automobile Association, Pennsylvania Ave. at 17th St., Washington, D. C. 1941. *v* + 55 *pp.*

Five years ago the American Automobile Association appointed a special Committee on Roadside Development and Control, to develop a program of roadside protection, from the standpoints of public health, public safety, decent appearance and public welfare. A Suggested Uniform Act prepared by the Committee was presented to the Association, and at public hearings to other persons and groups interested in the problem. The final report of the Committee published here contains not a model roadside zoning bill, which was concluded to be too inflexible for use by all states, but a Roadside Zoning Legislative Guide, and an outline study of the roadside protection problem, particularly of roadside zoning.

Pennsylvania Planning, Dec., 1940—*issue devoted to The Roadside Problem.—Pennsylvania Department of Commerce, State Planning Board, Harrisburg, Pa.* 20 *pp.*

This bulletin compactly summarizes the report of the American Automobile Association listed above, and outlines the plan for roadside protection and improvement now being prepared by the Department of Commerce of the state, and the State Planning Board. The bulletin has its usual effective format.

Second Joint Conference on Roadside Improvement.—Jan., 1941, *issue of Planning Broadcasts. American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C.* 32 *pp.*

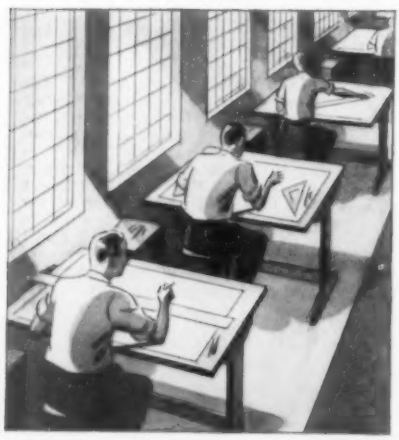
The Joint Conference on Roadside Improvement is sponsored by the National Roadside Council, the Conservation Committee of the Garden Club of America, the American Nature Association, and the American Planning and Civic Association. Contained here are resolutions adopted by the Conference in December, and the proceedings, including reports of what Federal, state, and local agencies are doing in the field.

Fire Protection

Crosby-Fiske-Forster Handbook of Fire Protection.—Robert S. Moulton, General Editor, Technical Secretary, National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1941. *xxiv* + 1307 *pp.* $4.50.

This is the ninth edition of this exhaustive volume which has as its aim to present "in compact form the essential information on fire prevention and fire protection that time has crystallized into good practice." Compiled with the aid of more than 100 experts in the field, it is a complete revision of the 8th edition published in 1956. The 59 chapters cover a comprehensive scope of subjects ranging from a chapter on common hazards to more technical chapters on sprinklers, and discussions of specialized problems such as transportation, fire safety, and mine fires.

'HOME' ENGINEERS *show how to* REDUCE *insurance costs by* DECREASING *municipal hazards*



THE premium for municipal insurance protection is based upon the severity of risk assumed by the insurer. The way to reduce premium cost is to lessen, if possible, the hazard of the property insured.

For Municipalities, the Engineering Staff of THE HOME provides twofold service of great value: (1) recommends proper and adequate protection based upon a thorough study of each property, and (2) makes suggestions for decreasing hazards with the result that savings in premium are effected. Through its agents and brokers, THE HOME gladly makes this expert service available to municipalities without obligation. Inquiries receive prompt attention.

THE HOME INSURANCE COMPANY
NEW YORK

FIRE — AUTOMOBILE — MARINE and ALLIED LINES OF INSURANCE

When you write for that catalog, kindly mention THE AMERICAN CITY.

Government Control of Business

Business and Government.—By Charles C. Rohlfing, Edward W. Carter, Bradford W. West, and John G. Hervey. The Foundation Press, Inc., Chicago. 1941. *v* + 803 *pp.* $4.00, *from* THE AMERICAN CITY.

This is one of the best texts in the field—all the more useful because it is thoroughly up-to-date. It is analytical and descriptive of the laws—national and state—governing business broadly interpreted. The authors cover not merely the direct regulation of business, industry and finance, but treat also related questions of taxation, workman's compensation, labor disputes, and social security. A final chapter on "War and Business" compares our experience of 1917 with the policies developed in 1940. Extensive bibliographies add much to the value of the work for reference purposes.

PHILLIPS BRADLEY.

Government and Business—A Manual and Syllabus.—By Russell H. Ewing, A.B., LL.B., A.M., Assistant Professor of Political Science, University of Denver. School of Commerce, Accounts, and Finance, University of Denver, Denver, Colo. 1940. 128 *pp.* $1.00.

This latest syllabus by Prof. Ewing contains a wealth of condensed information, compiled from all sources, on government and business, and comprehensive bibliographies on the many aspects of the subject. The effort has been made not to present any prejudice or particular viewpoint, but to give an unbiased analysis and evaluation of facts and policies involved. The first three chapters, on Social Control of Government and Business, Constitutional Controls Over Government and Business, Methods of Control and Types of Regulation, are followed by thirteen chapters analyzing different types of regulation and control.

Fire in Defense

Fire from the Air — The ABC of Incendiaries. — By J. Enrique Zanetti. Columbia University Press, New York. 1941. 55 *pp.* 4 x 6½ *in.* 50*c.*

Fire was used as a weapon of war centuries ago, and has recently been revived as a weapon in modern warfare. This small handbook contains a condensed popular discussion of incendiaries — the materials used, their properties, and the probable circumstances of their employment. A bibliography is included.

American Housing Problem

Housing—The Continuing Problem. National Resources Planning Board, Executive Office of the President, Washington, D. C. 1940. 60 *pp.*

Summarized for the non-technical reader, in this brief pamphlet, are technical reports by experts in the several Federal agencies concerned with housing, on most of the principal aspects of the housing problem and its solution in this country — the economics of residential building activity, choice of site, site planning, building regulations, legal problems, building-materials costs, labor costs, and small-house design. Conclusions of the original reports have not been synthesized, but are presented here individually even though some of them are contradictory.

Planning in 1940

American Planning and Civic Annual.—Edited by Harlean James, Executive Secretary, American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C. 1940. *x* + 276 *pp.* $3.00.

This is a record of planning events and progress of 1940. About half of the almost fifty papers were written especially for the annual; the rest include the principal papers given at the National Conference on Planning, held in July at San Francisco. They cover the national field—national planning, national parks and forests, housing and living conditions, Federal city; regional planning; the state field—state planning and parks, highways and roadsides; city planning.

Tax-Delinquent Land

Tax-Deeded Land in California—Supplemental Report.—California State Planning Board, 441 Public Works Bldg., Sacramento, Calif. 1940. *vi* + 21 *pp.*

The original report on tax-deed land in California contained only incomplete data on the extent, distribution and former ownership of such land. Facts and figures compiled since the publication of the report are contained in this supplement, in textual, map, and table form. Major features of California's new law relative to tax-delinquent land, which incorporates many of the recommendations of the Board's report, are outlined; and recent work of the Division of Tax Delinquent Land is described.

Geodetic Survey

Geodetic Survey of Glynn County, Ga.—Published by the Glynn County Planning Board, Brunswick, Ga. (Apply to this Board.) Prosecuted by the Work Projects Administration, in cooperation with the U. S. Coast and Geodetic Survey and the Georgia State Planning Board. 1940. 78 *pp.*

This pamphlet reports the first unit of a state-wide project of "Geodetic and Cadastral Surveys," being sponsored by the Georgia State Planning Board. Besides descriptions of monuments established for Glynn County on the geodetic network, the report includes legislation authorizing the use of plane-coordinates for real property surveys in Glynn County, and directions for their use.

Financial Study

State-Local Fiscal Relations in Illinois.—By Neil H. Jacoby, Rex J. Morthland, I. M. Labovitz, Mildred Fishman, Daniel Scheinman, Clarence Philbrook, W. F. Lougheed, George W. Mitchell, and G. Leland Bach. Edited by Simeon E. Leland. University of Chicago Press, Chicago. 1941. *v* + 453 *pp.* $2.00 *from* THE AMERICAN CITY.

This volume is the most complete study of fiscal relations within a state which has yet appeared. Although it is based on an analysis of the problem within a single state, it has wide significance for the country as a whole. The introductory section, by Dr. Simeon E. Leland, is general in scope. The detailed studies range from an analysis of local government powers and functions to a categorical description and appraisal of various aspects of state financial assistance and control. Fiscal officers in every state will find these studies as useful as they are revealing of the critical points of financial policy and procedure.

PHILLIPS BRADLEY.

Community Rehabilitation

A Master Plan for Fort Lee—A Sample Procedure for Rehabilitation of a Community.—Feb. 5, 1941, issue of the Regional Plan Bulletin, Regional Plan Association, Inc., 400 Madison Ave., New York. 12 *pp.* 25*c.*

As a result of financial difficulties, a portion of the indebtedness of Fort Lee and the disposition of its tax- and assessment-defaulted lands have been placed for fifteen years in the hands of a Board of Liquidation composed of three business men responsible to the Federal Court. Concluding that the root of the community's problems lies in a lack of planning and in over-zoning, the Board asked the Regional Plan Association of New York to make a master plan for, and re-zone, this New York suburb. This issue of the Bulletin records the survey the Association made of the area's topography, land uses, utilities, population trends, streets, parks and playgrounds, schools, and transportation, and its recommendations for future development.

Other Reports Received

AMHERST, MASS.—"Functions and Duties of Town Finance Committees (Massachusetts)."—By Danforth W. Comins. Bureau of Public Administration, Massachusetts State College, Amherst, Mass. 10 pp.

CLEVELAND, OHIO.—"Behind the Headlines"—a 14-month chronology of the activities of The Cleveland Chamber of Commerce. 16 pp.

JAMESTOWN, N. Y.—Annual Report, 1940, Board of Public Utilities. 35 pp.

LOUISVILLE, KY.—"The Taxpayer's Dollar." Department of Research and Service. 8 pp.

MANSFIELD, MASS.—Annual Report, Town Officers, 1940. 205 pp.

NEW YORK, N. Y.—"Engineering Surveys—A Report of Nine Months' Activities, Oct. 1, 1939, to June 30, 1940." Manhattan District Office, Work Projects Administration. 153 pp.

—Annual Report, Borough of Manhattan, year ending June 30, 1940. 58 pp.

RHINELANDER, WIS.—Annual Report, City Manager, 1940. 15 pp., mimeo.

WASHINGTON—"License Rates and Revenue Derived from Skill Games in Washington Cities." Association of Washington Cities, University of Washington, Seattle. 6 pp.

YOUNGSTOWN, OHIO.—Report, Trustees of the Sinking Fund, year ending Dec. 31, 1940. 28 pp.

"Comparative Tax Rates of 301 Cities, 1940."—By Rosina Mohaupt, Detroit Bureau of Governmental Research, 5135 Cass Ave., Detroit. Reprinted from the *National Municipal Review*, 299 Broadway, New York. 20 pp.

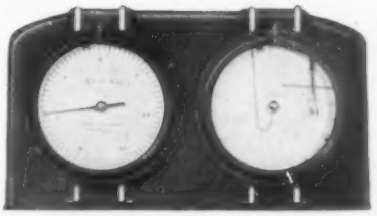
"Recommended Practice of Street Lighting, 1940."—Illuminating Engineering Society, 51 Madison Ave., New York. 36 pp. 15*c.*

Report on Second Annual Swimming Pool Conference, held June 4-5, 1940, University of Illinois, Urbana, Ill. 41 pp.

"The Work of Municipal Planning Boards in New Real Estate Developments."—By Harold W. Lautner, Instructor, Department of Regional Planning, Graduate School of Design, Harvard University. Reprint of paper presented at the Seventh Annual Five-Day Short Course for Tree Wardens and Foresters, Massachusetts State College, Amherst, Mass., Mar. 25-30, 1940. 34 pp.

BUILDERS

IMPROVED METERING AND CONTROLLING EQUIPMENT



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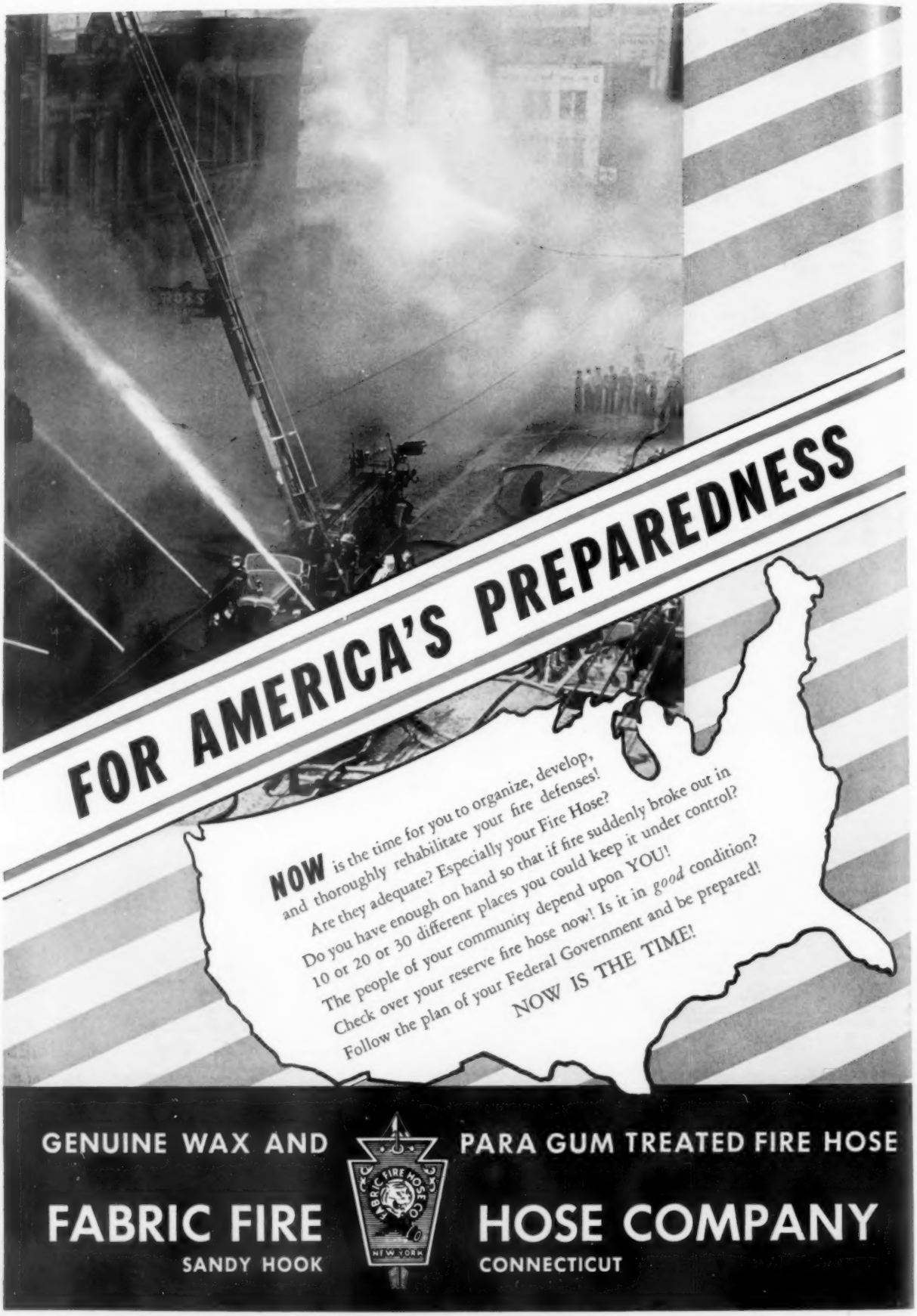
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NOW is the time for you to organize, develop, and thoroughly rehabilitate your fire defenses!
Are they adequate? Especially your Fire Hose?
Do you have enough on hand so that if fire suddenly broke out in 10 or 20 or 30 different places you could keep it under control?
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Check over your reserve fire hose now! Is it in good condition?
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Conventions—When and Where

March 10-13.—Lawrence, Kans.
KANSAS WATER AND SEWAGE WORKS ASSOCIATION. (Univ. of Kansas.) Sec.-Treas., E. Boyce, State Board of Health, Lawrence, Kans.

March 20-21.—Trenton, N. J.
NEW JERSEY SEWAGE WORKS ASSOCIATION. (Stacy-Trent Hotel.) Sec., John R. Downes, Bound Brook, N. J.

***March 20-22.—Binghamton, N. Y.**
NEW YORK STATE ASSOCIATION OF HIGHWAY ENGINEERS. (Arlington Hotel.) Sec.-Treas., Russell W. Yale, 71 Frederick St., Binghamton, New York.

***March 20-21.—Eugene, Ore.**
LEAGUE OF OREGON CITIES. (Univ. of Oregon Campus.) Sec., Herman Kehrli, Univ. of Oregon, Eugene, Ore.

March 27-28.—Syracuse, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. (Hotel Syracuse.) Sec., R. K. Blanchard, 50 W. 50th St., New York.

March 31-April 2.—Harrisburg, Pa.
PENNSYLVANIA STATE ASSOCIATION OF TOWNSHIP COMMISSIONERS. (Penn Harris Hotel.) Sec.-Treas., H. A. Fritschman, Upper Darby, Pennsylvania.

April 2-4.—Boston, Mass.
Joint meeting. (Hotel Statler.) NEW ENGLAND SEWAGE WORKS ASSOCIATION, NEW ENGLAND WATER WORKS ASSOCIATION and the NEW ENGLAND HEALTH INSTITUTE. Address: LeRoy W. Van Kleeck, Sec.-Treas., NESWA, State Dept. of Health, Hartford, Conn.

April 14-16.—Fayetteville, Ark.
ARKANSAS WATER AND SEWAGE WORKS CONFERENCE. (Univ. of Arkansas.) Sec., Harrison Hale, Univ. of Arkansas, Fayetteville, Ark.

April 16-19.—Cincinnati, Ohio.
NATIONAL ASSOCIATION OF HOUSING OFFICIALS. (Netherland Plaza Hotel.) Sec., Coleman Woodbury, 1313 E. 60th St., Chicago, Ill.

April 23-25.—Excelsior Springs, Mo.
MISSOURI ASSOCIATION OF PUBLIC UTILITIES. (Elms Hotel.) Asst. Sec., Jesse Blythe, 101 W. High St., Jefferson City, Mo.

April 24-25.—Indianapolis, Ind.
AMERICAN WATER WORKS ASSOCIATION—INDIANA SECTION. (Hotel Antlers.) Sec., H. G. Horstman, 603 Traction Terminal Bldg., Indianapolis, Ind.

April 28-30.—Quincy, Ill.
AMERICAN WATER WORKS ASSOCIATION—ILLINOIS SECTION. (Lincoln Douglas Hotel.) Sec., H. E. Hudson, Jr., 6843 Oglesby Ave., Chicago, Ill.

April 28-May 1.—Washington, D. C.
CHAMBER OF COMMERCE OF THE UNITED STATES. Sec., Ralph Bradford, 1615 H St., N. W., Washington, D. C.

***April 30-May 2.—Albany, Ga.**
ASSOCIATION OF COUNTY COMMISSIONERS OF GEORGIA. Exec. Sec., Betty Peeler, 134 Peachtree St., N. W., Atlanta, Ga.

May 3-5.—Louisville, Ky.
NATIONAL ASSOCIATION OF COUNTY OFFICIALS. Sec.-Treas., George F. Breitbach, Court-House, Milwaukee, Wis.

May 8-10.—Seattle, Wash.
AMERICAN WATER WORKS ASSOCIATION—PACIFIC NORTHWEST SECTION. (Olympic Hotel.) Sec., Fred Merryfield, Oregon State College, Corvallis, Ore.

***May 8-9.—Washington, D. C.**
MARYLAND-DELAWARE WATER AND SEWERAGE ASSOCIATION. (Hotel Raleigh.) Sec.-Treas., Chesley F. Garland, 2411 N. Charles St., Baltimore, Md.

May 11-14.—Philadelphia, Pa.
NATIONAL CONFERENCE ON PLANNING. Joint annual conference of American Society of Planning Officials, American Institute of Planners, the American Planning and Civic Association, and the National Economic and Social Planning Association. Conference Dir., Walter H. Blucher, 1313 E. 60th St., Chicago, Illinois.

May 12-14.—Charleston, S. C.
AMERICAN WATER WORKS ASSOCIATION—SOUTHEASTERN SECTION. (Ft. Sumter Hotel.) Address: Sec., B. P. Rice, Reconstruction Finance Corp., Healey Bldg., Atlanta, Ga.

May 12-13.—Carthage, Mo.
MISSOURI ASSOCIATION OF MUNICIPAL UTILITIES. (Drake Hotel.) Sec.-Treas., W. J. McCarroll, Fulton, Mo.

***May 12, Week of.—Toronto, Ont.**
NATIONAL FIRE PROTECTION ASSOCIATION. (Roval York Hotel.) Managing Dir., Percy Bugbee, 60 Batterymarch St., Boston, Mass.

May 15-16.—Cincinnati, Ohio.
AMERICAN WATER WORKS ASSOCIATION—OHIO SECTION. (Gibson Hotel.) Sec., T. R. Lathrop, State Dept. of Health, Columbus, Ohio.

***May 17-19.—Yosemite Valley, Calif.**
AMERICAN INSTITUTE OF ARCHITECTS. Exec. Sec., E. C. Kemper, 1741 New York Ave., Washington, D. C.

May 19-22.—Kalamazoo, Mich.
BUILDING OFFICIALS' CONFERENCE OF AMERICA. Address: Sec.-Treas., Arthur N. Rutherford, Building Inspector, W. Hartford, Conn.

***May 19-22.—Louisville, Ky.**
MUNICIPAL FINANCE OFFICERS ASSOCIATION OF THE UNITED STATES AND CANADA. (Brown Hotel.) Exec. Sec., Carl H. Chatters, 1313 E. 60th St., Chicago, Ill.

May 22-25.—Walla Walla, Wash.
ASSOCIATION OF WASHINGTON CITIES. (Marcus Whitman Hotel.) Exec. Sec., Chester Biesen, Univ. of Washington, Seattle, Wash.

May 23-24.—Missoula, Mont.
AMERICAN WATER WORKS ASSOCIATION—MONTANA SECTION. (Hotel Florence.) Sec., Herbert B. Foote, State Board of Health, Helena, Mont.

May 30-June 1.—Atlantic City, N. J.
COMMUNITY CHESTS AND COUNCILS, INC. Exec. Vice-Pres., Allen T. Burns, 155 E. 44th St., New York.

June 5-6.—Atlanta, Ga.
SMOKE PREVENTION ASSOCIATION. (Ansley Hotel.) Sec., Frank A. Chambers, City Hall Square Bldg., Chicago, Ill.

June 9-11.—Albany, N. Y.
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Exec. Sec., William P. Capes, City Hall, Albany, N. Y.

June 12-14.—Lancaster, Pa.
EASTERN ASSOCIATION OF FIRE CHIEFS. (Hotel Brunswick.) Sec., Charles E. Clark, Box 217, Wayne, Pa.

***June 19-21.—Niagara Falls, N. Y.**
NEW YORK STATE SEWAGE WORKS ASSOCIATION. Spring meeting. Sec.-Treas., A. S. Bedell, State Dept. of Health, Albany, N. Y.

June 22-26.—Toronto, Ont.
AMERICAN WATER WORKS ASSOCIATION. (Roval York Hotel.) Sec., Harry E. Jordan, 22 E. 40th St., New York.

June 29-July 3.—Boston, Mass.
NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES. Exec. Sec., Willard E. Givens, 1201 16th St., N. W., Washington, D. C.

July 22-25.—Philadelphia, Pa.
PENNSYLVANIA CHIEFS OF POLICE ASSOCIATION. Sec., F. B. Titus, Lansdowne, Pa.

August 17-25.—Evanston, Ill.
NATIONAL INSTITUTE FOR COMMERCIAL AND TRADE ORGANIZATION EXECUTIVES. (Northwestern Univ.) Sec.-Treas., Clarence R. Miles, 832 First National Bank Bldg., Chicago, Ill.

August 18-21.—Buffalo, N. Y.
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE. Exec. Sec., Edward J. Kelly, 918 F. St. N. W., Washington, D. C.

***August 26-29.—Washington, D. C.**
NATIONAL SHADE TREE CONFERENCE. (Mayflower Hotel.) Sec.-Treas., L. C. Chadwick, Ohio State Univ., Columbus, Ohio.

September 1-3.—State College, Pa.
PENNSYLVANIA WATER WORKS OPERATORS' ASSOCIATION. Sec.-Treas., I. M. Glace, 22 S. 22d St., Harrisburg, Pa.

September 3-3.—State College, Pa.
PENNSYLVANIA SEWAGE WORKS ASSOCIATION. (Pennsylvania State College.) Sec.-Treas., Bernard S. Bush, Kirby Health Center, Wilkes-Barre, Pa.

September 13-21.—Santiago de Chile, S. A.
PAN AMERICAN CONGRESS OF MUNICIPALITIES. Address: Earl D. Mallery, Exec. Dir., American Municipal Association, 1313 E. 60th St., Chicago, Ill.

September 23-26.—Boston, Mass.
NEW ENGLAND WATER WORKS ASSOCIATION. (Hotel Statler.) Sec., Frank J. Gifford, 615 Statler Bldg., Boston, Mass.

September 24-26.—Grand Rapids, Mich.
AMERICAN WATER WORKS ASSOCIATION—MICHIGAN SECTION. Sec., M. N. Gerardy, Water Board Bldg., Detroit, Mich.

***October 6-9.—New Orleans, La.**
AMERICAN INSTITUTE OF PARK EXECUTIVES AND AFFILIATED ORGANIZATIONS. (Roosevelt Hotel.) Exec. Sec., Will O. Doolittle, Box 422, Tulsa, Okla.

October 6-10.—Chicago, Ill.
NATIONAL SAFETY COUNCIL. M'ng Dir., W. H. Cameron, 20 North Wacker Drive, Chicago, Ill.

October 12-14.—Virginia Beach, Va.
LEAGUE OF VIRGINIA MUNICIPALITES. (Cavalier Hotel.) Exec. Sec., Morton L. Wallerstein, 902 Travelers Building, Richmond, Va.

***October 12-16.—St. Paul, Minn.**
NATIONAL TAX ASSOCIATION. (Lowery Hotel.) Sec., Raymond E. Manning, Library of Congress, Washington, D. C.

October 13-16.—Fort Worth, Texas.
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Sec., Lewis A. Quigley, 3320 West Berry Street, Fort Worth, Texas.

***October 14-17.—Atlantic City, N. J.**
AMERICAN PUBLIC HEALTH ASSOCIATION. (Convention Hall and Auditorium.) Exec. Sec., Dr. Reginald M. Atwater, 50 W. 50th St., New York.

October 19-22.—New Orleans, La.
AMERICAN PUBLIC WORKS ASSOCIATION. Asst. Dir., Norman Hebden, 1313 E. 60th St., Chicago, Ill.

***October 19-22.—Jacksonville, Fla.**
NATIONAL ASSOCIATION OF ASSESSING OFFICERS. Exec. Dir., Albert W. Noonan, 1313 E. 60th St., Chicago, Ill.

October 22-25.—Fresno, Calif.
AMERICAN WATER WORKS ASSOCIATION—CALIFORNIA SECTION. (Fresno Hotel.) Sec., Gerald E. Arnold, San Francisco Water Dept., Millbrae, Calif.

***October 27-28.—Pittsburgh, Pa.**
ENGINEERING SOCIETY OF WESTERN PENNSYLVANIA. (William Penn Hotel.) Gen. Chairman, H. M. Olson, 171 Longue Vue Drive, Mt. Lebanon, Pittsburgh, Pa.

November 6-7.—Baltimore, Md.
AMERICAN WATER WORKS ASSOCIATION—FOUR STATES SECTION. Sec., Lloyd Nelson, U. S. Pipe & Foundry Co., Broad and Chestnut St., Philadelphia, Pa.

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* First appearance of notice on this page.

THIS PLANT PAYS THE SALARIES OF ALL CITY OFFICIALS!

DALY CITY *Shows the way*

TO A PROFITABLE WATER SYSTEM

BACK in 1919, Daly City, California, was buying water at a cost of $1500 per month. At that time they put in two wells and installed double acting plunger pumps, pumping 200 g.p.m.

The modernization of this system began in 1928, with installation of two 25-h.p. Pomona water lubricated turbine pumps, each with a capacity of 175 g.p.m., setting at 270 feet.

These were followed a few years later by two 40-h.p. Pomona pumps and finally by one 25-h.p. and two 20-h.p. Pomonas which were added for peak operation and standby. Daly City officials estimated that even though the first cost of the pumps was a trifle higher than equipment of similar capacity could have been bought for, the unfailing reliability and freedom from repair bills of each Pomona installation well justified the purchase of another Pomona unit.

Daly City's capacity has increased from 200 g.p.m. to 1150 g.p.m. and the Water Department's income from $2200 to $9000 per month. Income from the sale of water, although at a very low rate, pays the salaries of all city officials and all costs of operation and depreciation. In other words, this Pomona pump installation provides Daly City with an inexpensive, uncontaminated water supply, free of maintenance, and highly profitable.

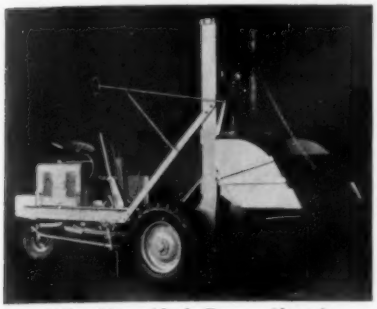
A factory trained water engineer is available—without obligation — to assist you to a more profitable operation of your water department.

POMONA
Water-Lubricated
PUMPS

POMONA PUMP CO., 120 Broadway, New York City. Plants at 4301 So. Spring Ave., St. Louis, Mo. and 206 Commercial St., Pomona, California.

News and Illustrations

Items of Interest to City, Town and County Officials, and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings



The New Clark Power Shovel

A Self-Powered Scoop That Handles Snow

A new material-handling machine which it is claimed will reduce the cost of handling loose materials, and which has particularly important applications in snow removal, has been announced by the Clark Tructractor Division of Clark Equipment Co., Battle Creek, Mich. This Clark power shovel, working in conjunction with plows, picks up piled snow and loads it into trucks. It is built on a 3-wheeled chassis, with a rear-wheel steer, and is powered with a 4-cylinder Continental motor capable of 24-hour continuous operation. The heavy steel scoop picks up its load of loose or semi-hard material from the pile without ramming it.

The machine carries a load of 1,500 pounds, bulking as much as 18 cubic feet, at from 3½ to 11 mph, and is reported to elevate it in less than 10 seconds, for dumping into carts, trucks or bins. One model has 45 inches clearance when dumped, and another 65 inches. The driver controls all operations from his seat.

The manufacturer reports that every part of the machine has ample dust protection and that the shovel is approved by Factory Mutuals and the Underwriters as to fire hazard. Standard equipment includes a self-starter, generator and battery. Special equipment includes lights and a hopper lid which opens and closes automatically as the driver picks up and dumps a load.

Rome Grader Bought by Union Fork & Hoe

The business of the Rome Grader and Machinery Corporation, 1212 East Dominick Street, Rome, N. Y., has been sold to The Union Fork & Hoe Co., of Columbus, Ohio. Rome graders and allied lines will still be manufactured at the same location, and the present personnel retained. The new division will be known as the Rome Grader and Machinery Division of The Union Fork & Hoe Co.

Truck-Driven Unit Sands Icy Streets

A dual-drive sand-spreader for use on icy highways and streets, that can be used with or without the engine, has been announced by Ace Equipment Co., Oshkosh, Wis. The spreader will handle all types of materials used for ice control and, according to the manufacturer, will run at all speeds and under all operating conditions at low cost and with safety.

The illustration shows the unit attached to a truck, and it is operated by the man standing on the platform, where he is close to the ground, or standing on the truck box. The unit may be backed up slippery hills or run forward at any truck speed. The area of spread is dependent on the rate of truck travel when the unit is used with the truck motor.

This dual unit has safety lights, a sand suppressor which permits the operator to protect oncoming traffic, a mercury automatic clutch which stops the power flow when the unit is choked by rocks or sticks or when the engine is turned off, and the dual drive that requires less than five minutes to change from one drive to the other. Other features are standard tire width, adjustable deflectors, a self-feeding hopper, an inverted cone-type agitator, and standard parts used throughout the assembled unit. It it made of boiler-steel plate, electro-welded, and weighs 550 pounds. It is driven by an air-cooled engine equipped with a foot-starter and throttle control mounted at the top of the safety rail. The engine engages at 800 rpm as a precaution against gear breakage.

The New Ace "De-icer"

New Soil-Cement Bureau Will Aid Municipalities

Soil-cement mixtures have become of increasing importance in the construction field, particularly in their use for light-traffic roads and streets in cities and at airports. Recognizing this, the Portland Cement Association, 33 West Grand Avenue, Chicago, Ill., has created a Soil-Cement Bureau. Miles D. Catton, who has been in active charge of soil-cement development since the Association started research in this field seven years ago, has been named manager of the new bureau.

The Soil-Cement Bureau will function in a manner comparable to the other general office bureaus of the Association, and will be responsible for promotion, testing and supervision of construction of soil-cement mixtures in their various field uses. Municipalities interested in developing the technique in their own localities should secure advice from Mr. Cotton.

PHOTOGRAPH BY LEO LIEB, PM STAFF

One of the fleet of Snogos owned by the city of New York getting its first workout of the 1940-41 winter, late in January on Barclay Street in the downtown section. Over 10,000 men and 1,100 trucks were used to aid in removing the 4-inch snowfall

THESE ARE THE REQUIREMENTS... CAN YOU MEET THEM?

TO INCINERATE A COMBINATION OF GREEN GARBAGE AND SEWAGE FILTER CAKE..

TO INCINERATE GREEN GARBAGE ALONE....

TO INCINERATE SEWAGE FILTER CAKE ALONE..

TO GUARANTEE PERFORMANCE...

YES! ...Said Incineration Headquarters!

INCINERATION HEADQUARTERS

... the country's most authoritative organization on all matters relating to the incineration of municipal wastes ... maintains an integrated program of laboratory study, field research and plant design, assuring only equipment that is tried and proven.

Now, let the Rock Island Argus tell the story—

"On recommendation of the committee sent to Maryland and New Jersey last week to inspect incinerators, the council awarded the Nichols Engineering and Research Corporation of New York City the contract for furnishing and installing incinerator equipment at a cost of $68,750.

The committee reported that incinerator equipment costing about $50,000 less, on which bids were received last week, was unsatisfactory. Members explained the equipment would burn garbage alone and garbage and sewer sludge combined, but would not burn sewer sludge alone, as will be necessary in Rock Island, without the use of considerable additional fuel.

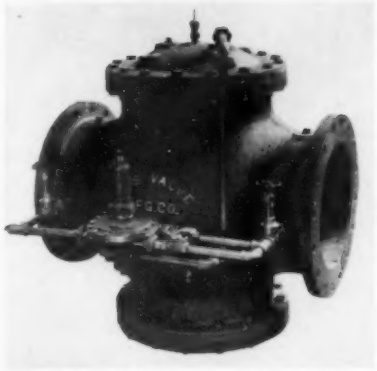
Committee members, in explaining their recommendation for the purchase of the more expensive incinerator equipment, said the cheaper equipment failed to burn the sludge and garbage thoroughly and that working conditions in plants where such equipment was in operation were far from proper."

Quoted from The Rock Island Argus, 1-23-40

NICHOLS ENGINEERING & RESEARCH CORPORATION

60 WALL TOWER BLDG., NEW YORK, N. Y. NERCO UNIVERSITY TOWER BLDG., MONTREAL, P. Q.

During March we hope you will remember to mention THE AMERICAN CITY.



A Ross Double-Acting Altitude Valve

Altitude Valves for Municipal Water Works

Fifteen different types of altitude or automatic valves and combination assemblies to control pressures or elevations of water in standpipes, reservoirs and elevated tanks, are made by the Ross Valve Mfg. Co., P. O. Box 596, Troy, N. Y. Each type may have as many as eight automatic operations. The altitude valves in greatest demand may be classified under two groups, single acting and double acting. The single-acting valve performs but one automatic duty and that is, permits flow through it in one direction only, and when the tank, reservoir or standpipe fills, the valve closes to prevent overflow. The double-acting altitude valve permits flow in two directions, into the reservoir and also allows water to return from the reservoir to the distribution system as needed.

Additions to Board of Sterling Engine Company

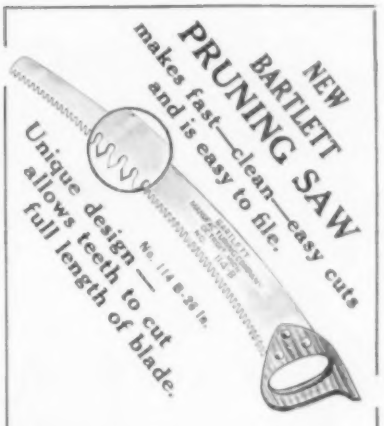
Membership of the Board of Directors of the Sterling Engine Co., 1252 Niagara Street, Buffalo, N. Y., was increased from seven to ten at a recent stockholders' meeting, when Addison F. Vars, President, announced that plans are under way for the construction of 100,000 square feet of additional assembly facilities for the Sterling engine line.

The new members of the board are Lawrence D. Bell, William J. Conners, and Reginald B. Taylor. Mr. Bell is President of the Bell Aircraft Corporation, and has been associated with the aircraft industry for thirty years. He is particularly interested in the recent adoption of new standards of precision craftsmanship by the Sterling Engine Co. in the production of marine engines. Mr. Conners is President and publisher of the *Buffalo Courier-Express,* and serves besides as Chairman of the Board of the Great Lakes Transit Corporation, and as a director of the Marine Trust Co. of Buffalo, the Great Lakes Towing Co., and the American Shipbuilding Co., of Cleveland. Mr. Taylor has been prominent in Niagara Frontier financial and industrial circles for 21 years. He is Vice-President and Director of the Niagara Share Corporation and the Gredag Corporation.

Other members of the company's Board of Directors are Spencer H. Logan, Chairman; Charles A. Criqui, Vice-Chairman; Addison F. Vars; Edward H. Townsend, Executive Vice-President and Treasurer; Frank G. Raichle, Secretary; Frank G. Cooban; and A. K. Barbee.

Reservoir Protection by Floodlighting

Protection against possible night sabotage of water utilities is important. According to the Illuminating Laboratory of the General Electric Co. at Schenectady, N. Y., a number of cities have already laid plans for the protective lighting of water plants and reservoirs. Above, John Burwell (left), in charge of water supply at Schenectady, is seen discussing night protection of the local reservoir with Robert J. Swackhamer, G-E engineer. At the right is shown one of the luminaires to be used in a new protective lighting system to be installed at the Schenectady reservoir



Barmanco Tree Filler for Cavities

To each two gallons of filler, add three gallons of clean, sharp sand and one gallon Portland cement. Put up in 1 gal. cans, 5 gal. drums and 55 gal. drums.

Ask for free copy of catalog describing Tree Trimming Equipment.

BARTLETT MFG. CO.
3014 East Grand Blvd., Detroit, Mich.

Since 1901

STEWART

America's Finest

SEWER RODS

- Sewer Cleaning Tools
- Sewer Cleaning Machines
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- Root Cutters

"Let Stewart answer your sewer cleaning problems"

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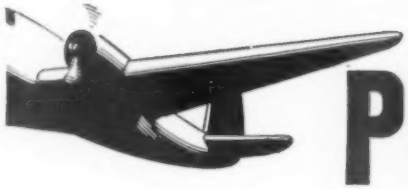
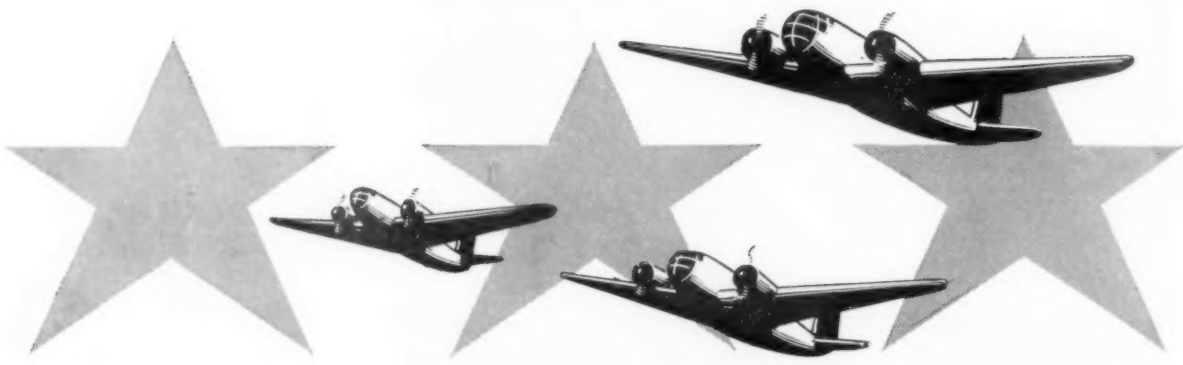
779 Argyle Rd., Windsor, Ontario, Canada

SO AMERICA MAY BE

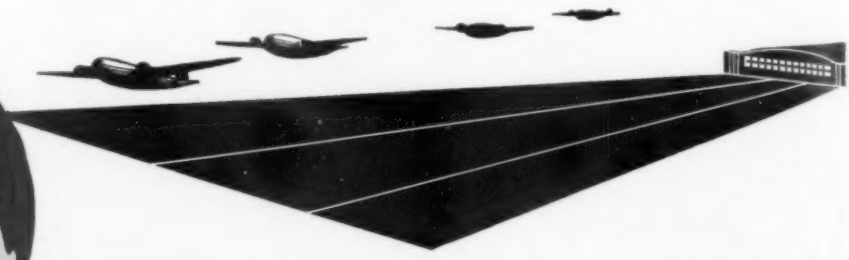


PREPARED



THE URGENT NEED for speed in the national defense program of airport, cantonment and industrial paving finds The Barrett Company ready. A nation-wide network of Tarvia plants, a fleet of Barrett tank cars and Tarvia application equipment, and a staff of specially trained highway engineers are equipped to facilitate construction on a big scale. Behind these Barrett resources stands a long record of successful experience in solving similar problems during the war time days of 1914-18. Engineers and contractors working against time will find the use of Tarvia and Barrett service an efficient short cut to uniformly satisfactory results.

Barrett Tarvia
GOOD ROADS AT LOW COST



THE BARRETT COMPANY New York Chicago Birmingham St. Louis Detroit
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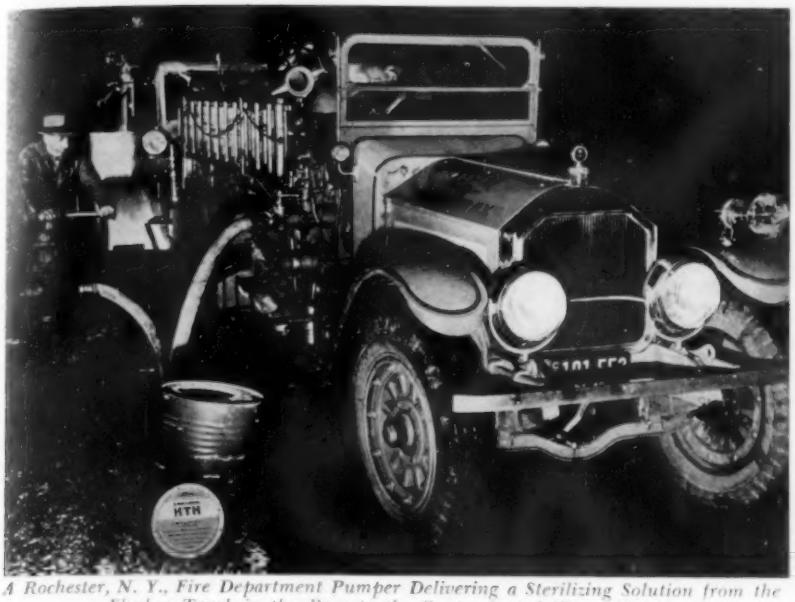
...ONE OF AMERICA'S GREAT BASIC BUSINESSES

During March we hope you will remember to mention THE AMERICAN CITY.



A Rochester, N. Y., Fire Department Pumper Delivering a Sterilizing Solution from the Flusher Truck in the Rear to the Contaminated Water Mains

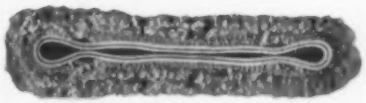
Sterilizing Mains at Rochester, N. Y.

The recent pollution of the Rochester water supply brought home to water-works engineers not only the seriousness of such a situation but also the heavy responsibilities incumbent upon them. When, roughly, four million gallons of raw polluted water from the Genesee River poured overnight into city mains through the mistake of a Water Works Department repair gang, Rochester awoke on December 12 to face a potential epidemic. A valve had been opened in a forgotten cross-connection of the municipal drinking-water supply to the separate raw-water fire hydrant supply. The latter is river-fed and operated separately in the congested area and certain of the outlying manufacturing and mercantile districts.

Rochester water-works officials immediately ordered liquid chlorine fed into the city reservoirs at greatly increased rates. Four days' accelerated chlorination, however, failed to reach mains in the outskirts of the city. Rochester thus faced a continued Health Department ban on its drinking water until normal movement of the water through the main could distribute the proper chlorine residual throughout the entire 500 miles of water mains in the city.

Resourceful water-works engineers overcame this difficulty by utilizing the fire pumping equipment and street-flushing trucks in direct forced hypochlorination through hydrants, using Sanitation HTH furnished by the Mathieson Alkali Works, New York City. Drawing water from hydrants in various parts of the city, water-works men prepared solutions of 168 ppm available chlorine in street-flushing trucks by adding 5 pounds of HTH and recirculating the water to dissolve the chemical, and then made it up to 2,500 gallons. Booster pumps then forced the HTH solutions back into the city mains under 50 pounds pressure. After two days of injecting the HTH solution into the city mains, Health Department officials approved the drinking-water supply as safe. This probably saved two weeks in cleaning up the polluted water, according to Commissioner of Public Works William H. Roberts.

WHY—



The above illustration shows the position of the rubber lining in

Bi-Lateral Fire Hose

when it is held in a flattened position between calls into service. This is why we can save a city one replacement, because the hose will give double the service of any hose constructed under the old method.

—Also—

we can load 25% more on the apparatus-bed, actually making an $8,000 truck loaded with the Bi-Lateral construction, cheaper than one priced at $7,000 when loaded with the other construction.

BI-LATERAL FIRE HOSE CO.

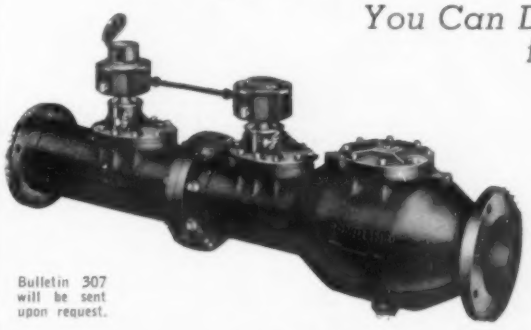
20 N. Wacker Drive, Chicago, Illinois

SPARLING

MAIN LINE

COMPOUND WATER METERS for Community Main-Line Service

Here is one of the 44 types and sizes of Sparling COMPOUND Meters for accurate measurement over a wide range of flows.



Bulletin 307 will be sent upon request.

You Can Depend on Them for

CONSISTENT ACCURACY
•
EASE OF INSTALLATION
•
LOW LOSS OF HEAD
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ALL-ROUND ECONOMY

R. W. SPARLING

LOS ANGELES ..... Box 3277, Terminal Annex ..... 622 Broadway ..... CINCINNATI
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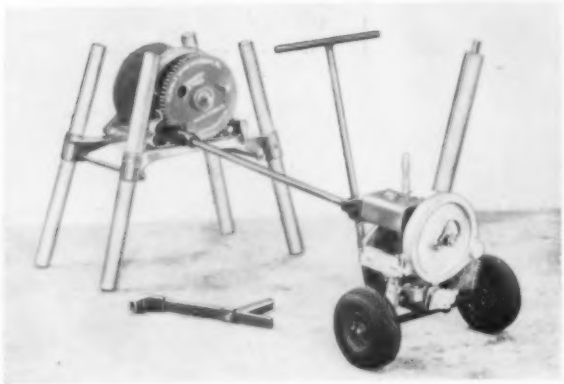

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WINCH and POWER DRIVE

Speediest Method for Removing Roots, Scale, Sand, etc., from Underground Pipe Lines.

Made of cast steel for lightness, strength and durability to withstand heavy-duty pulling. Power drive may be used with winch or with straight rods. May be connected to pump or block and tackle.

Made by America's largest manufacturer of pipe-cleaning tools.

Roots removed from 10-in. sewer, San Diego, Calif.

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SEWER-ROD EQUIPMENT CO.

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PUBLIC PROPERTY PROTECTION BY Stewart

The best protection you can buy for all public property is a Stewart Iron or Chain Link Wire Fence. Stewart Fences beautify as well as protect, and offer a lifetime of dependable, low-cost service. Before buying investigate the exclusive features of Stewart Fences. It will be to your advantage to do so.

Other Stewart Products for public property: Settees, Steel Folding Chairs, Wire Mesh Partitions, Trash Cans, Flag Poles, Bronze Plaques and many others. When requesting literature, please mention products in which you are interested. Sales and Erection offices in principal cities.

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The Stewart Iron Works Co., Inc.
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CUSHION THE BLOW
with RUBBER-CUSHIONED SWING SEATS

Playground Apparatus
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ASPHALT and TAR KETTLES
Fire Proof—Oil Burning
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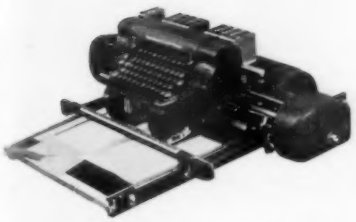
Many sizes. Write for catalog.

Elkhart **White Mfg. Co.** Indiana



The New Completely Electrified Elliott Fisher Accounting Machine

New Electrified Machine for Accounting Service

A new completely electrified accounting machine retaining the proven Elliott Fisher flat writing principle, but employing an electric keyboard and other operating features for greater speed and ease of operation, has been announced by Underwood Elliott Fisher Co., 1 Park Avenue, New York. This new machine is available for writing, single automatic feed machines, double automatic feed machines, simplex accounting machines, and universal accounting machines.

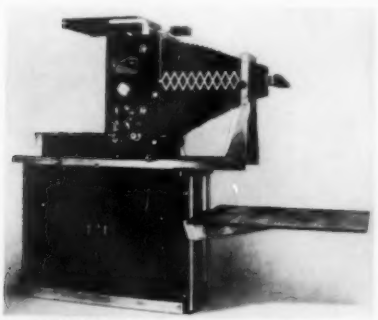
The standard single keyboard, familiar to all typists, engages the electrically powered key action at the touch of a key, and the electrically driven type bar completes the typing. The ten figure keys are used to write folios, addresses, and numerical descriptions and the same ten keys are used to write simultaneously and automatically add, subtract, cross-compute and total amounts. This machine is available in three widths, 11, 16 and 24 inches, and in several models to accommodate the many different types of forms and the individual requirements of different accounting problems.

The machine is illustrated and described in full in Form EF 1222.

Photocopying Machine in Improved Model

Rectigraph, the original photocopying machine manufactured by The Haloid Co., Rochester, N. Y., is designed to copy exactly same size, reduced, or enlarged, anything written, printed, or drawn. The new 1941 model photographs the subject, and develops and fixes the prints within the machine. Accuracy is assured by a new exclusive Bausch and Lomb lens and prism, and other new features help in producing fine copies.

Especially designed for the reproduction of material on short notice and at low cost, this machine is reported to be an ideal "bottle-neck" opener. Among the cities now making use of it are Los Angeles, New York, Boston, and Buffalo. All the cities using Rectigraph, it is reported, are utilizing it in several of their departments, including those of city manager, board of education, water and power, finance, police, planning, and health.

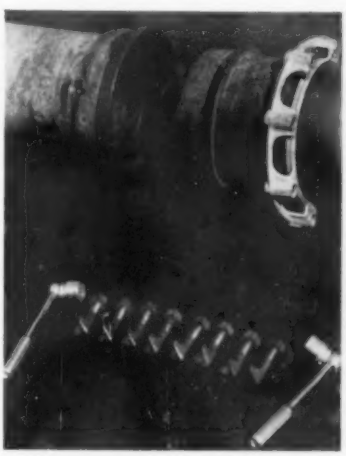


The New 1941 Model Rectigraph Machine

Protective Coatings for Water and Sewer Pipes Shown in Catalog

A new well-illustrated 20-page booklet on Bitumastic protective coatings for water and sewer pipe, as well as for the protection of marine structures and for the protection of concrete at sewage-treatment plants, has just been released by Wailes Dove-Hermiston Corporation, Westfield, N. J. A feature of this catalog is the "Coating Guide," which shows the proper type of hot coatings or cold applied paints for various types of surfaces. This double-page table alone makes the catalog of value to technical officials in municipal departments responsible for the maintenance of materials, equipment and plants.

STOP
JOINT LEAKAGE



with CARSON
MECHANICAL JOINTS
• CHARCOAL IRON BOLTS •
for Cast Iron Pipes and Fittings also Leak Clamps
WRITE FOR PRICES
Carson-Cadillac Corp.
1221 PINSON ST. BIRMINGHAM, ALA.

1879-**ROSS**-1879
AUTOMATIC
VALVES

ALTITUDE VALVES
for
Control of elevation and heads into and out of tanks, basins and reservoirs.
1. Single acting.
2. Double acting.
3. Combination assembly for three or more automatic operations.

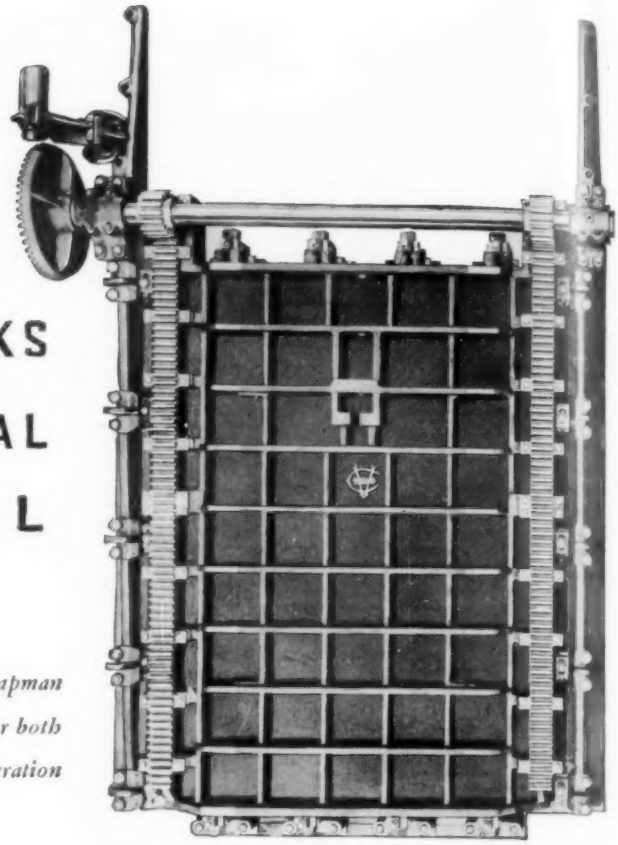
REDUCING VALVES
for
Maintaining desired discharge pressure regardless of change in rate of flow.
1. Pressure reduction only.
2. Pressure reducing and reverse flow.
3. Combination assemblies —for control of pressure at inlet and outlet of valve.

SURGE-RELIEF VALVE
for
Maintaining safe operating pressures for conduits, distribution and pump discharge.

Ross Valve Mfg. Co.
INCORPORATED
P. O. Box 596 Troy, N. Y.

For

WATERWORKS
SEWAGE DISPOSAL
FLOOD CONTROL



84" x 108" Special Chapman Sluice Gate. Equipped for both Hydraulic and Hand Operation

Chapman

SLUICE GATES AND FLOORSTANDS

Long successful experience is a sound basis for leadership in any field. Chapman has seventy-five years to its credit in the manufacture of sluice gates and operating accessories. Thousands of installations, including outstanding projects in every field, provide concrete evidence of the high quality of service rendered. Chapman sluice gates have been standardized in a range of types and sizes to meet the majority of conditions, at substantial savings in cost and time of delivery. Where standard material won't meet some special requirement, we will be glad to assist in a study of the problem and make recommendations.

THE CHAPMAN VALVE
MANUFACTURING COMPANY
INDIAN ORCHARD, MASS.

Why not remember to mention THE AMERICAN CITY?

Servicing a Street Lamp from a Keystone Ladder

Truck-Mounted Ladder for Servicing Lights

A new ladder mount which goes into a standard pick-up truck body and is adapted for general emergency work, servicing street lamps, tree trimming, servicing traffic signals, and overhead cable work, has been developed by Electric Service Supplies Co., 17th and Cambria Streets, Philadelphia, Pa. The new Keystone Type HD ladder mount gives full 360-degree rotation and can be locked in any position. The weight of the ladder is carried on a helical spring balance, and the fly ladder is raised by turning a hand wheel, which, the manufacturer states, gives faster, easier operation and greater safety by eliminating ropes. Care has been taken to endeavor to give this unit safety, strength, ridigity and freedom from swaying, so that operators may have confidence in their work.

Chain Belt Company President Dies Suddenly

C. R. Messinger, President of Chain Belt Co., 1600 West Bruce Street, Milwaukee, Wis., who has been continuously identified with Milwaukee and Chicago business interests for more than thirty years, died suddenly of a heart attack on February 4, 1941. His death followed that of Mrs. Messinger by about a month. In addition to being President of Chain Belt Co., Mr. Messinger was Chairman of the Boards of Oliver Farm Equipment Co., Chicago, and Sivyer Steel Casting Co., Milwaukee. He was a director in several other companies, and Assistant Chief of the Chicago Ordinance District.

Mr. Messinger became affiliated with Chain Belt Co. in 1917, as its Vice-President and General Manager, having been named a Director the previous year. In 1923 he was elected President of the company, and 1931 became Chairman of the Board. Late in 1934, on the death of Clifford F. Messinger, then President of Chain Belt Co., Mr. Messinger returned as its President and has been its executive head since. In 1931 he was elected President of Oliver Farm Equipment Co., and in 1935 was named Chairman of the Board.

In addition to his business connections, Mr. Messinger was interested in various civic, charitable and educational undertakings, and at the time of his death was a Director of the Milwaukee Community Fund, Milwaukee Country Day School, and Columbia Hospital of Milwaukee. He was Vice-President of the Yale Engineering Association, and a member of the Executive Committee of the Yale Alumni Board, Chi Phi Fraternity, Sons of the American Revolution, and the American Society of Mechanical Engineers.

J. F. Towers Receives Defense Appointment

James F. Towers, Executive Vice-President of the engineering firm of Ford, Bacon & Davis, 39 Broadway, New York, has been appointed by E. R. Stettinius, Jr., as Assistant Director in charge of Administration of the Division of Priorities, of the Office of Production Management in Washington.

During Mr. Towers' absence from the office of Ford, Bacon & Davis on such national defense work, his duties there will be assumed by W. E. Reynolds, Vice-President, and H. E. Whitaker, Chief Engineer.

Now Available

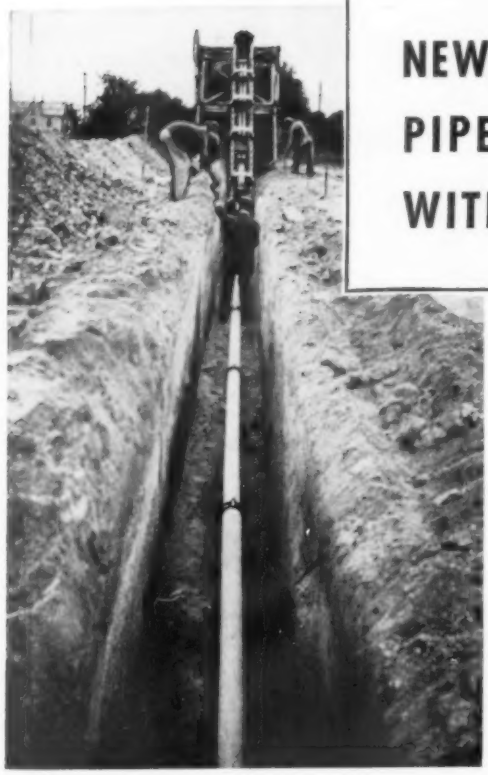
Waterworks engineers and plant superintendents will find this new Golden-Anderson valve catalog not only useful in checking valve specifications and in making easy the job of quickly and correctly ordering valve parts, but they will find the engineering data presented in the catalog, valuably informative and of every-day reference use.

Write for your free copy today.

Golden-Anderson Valve Specialty Co.
Fulton Bldg., Dept. AC-1, Pittsburgh

STREET STRIPING SIMPLIFIED!
Why continue to use old fashioned methods of hand marking when this simple, compact M-B machine can do the job so much more efficiently and economically. Handles ALL types of traffic striping jobs: center-lines, parking areas, cross walks, safety zones, etc. Can also mark athletic fields, airports, tennis courts, playgrounds, etc. Quickly convertible to all-purpose paint sprayer for painting machinery, park benches and other municipal equipment.
Write for new bulletin just off the press.
MEILI-BLUMBERG CORPORATION
NEW HOLSTEIN, WIS.
Box A-3
MB
TWO TYPES
Hand propelled model (shown here) and self propelled type that lays down traffic lines up to 15,000 feet per hour. Easy, one-man control. Practically no upkeep.
STREET MARKER

A 3294-41



NEWPORT, DEL., INSTALLS *"Century"* PIPE TO NEW HOUSING PROJECT WITH TRENCHING-MACHINE SPEED

A MECHANICAL TRENCH DIGGER can set a fast pace . . . but no faster than a crew of men can lay a pressure line of Keasbey & Mattison "Century" Asbestos-Cement Pipe. Newport, Del., found this out when such a line had to be laid quickly to a new housing development. The pipe laying kept right on the heels of the trenching machine.

Many such developments are now taking form as part of America's Defense Program, and K&M "Century" Pipe can save much precious time. In addition, "Century" Flexible Couplings insure leak-proof lines that are permanent, trouble-free and economical.

Corrosion-proof, tuberculation-proof, light in weight, easy to handle—all these factors contribute to the continued efficiency and economy of "Century" Pipe. Write for free catalogue, "Mains without Maintenance." Address Dept. 1017.

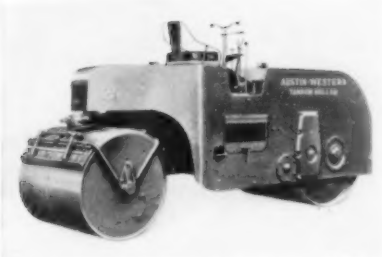
1 Pipe laying progresses as fast as the mechanical trencher, at Newport, Del. "Century" Pipe is so light in weight and easily handled, and "Century" Flexible Couplings are so quickly installed, that laying time and laying cost are greatly reduced.

2 Note the "Century" Tapped Couplings which are identical with "Century" Flexible Couplings except that the middle ring is wider and is bossed and tapped for service connections. Thus the drilling and tapping of pipe in the field are eliminated.

3 "Century" Pipe can be cut in the field without any difficulty, as shown in this picture taken at Newport, Del. Drilling, tapping, and the insertion of "corporation stops" are accomplished with similar ease, either dry or under pressure.

4 Mr. A. M. Munn, Town Engineer, who says—"Low first cost and low maintenance cost decided us on 'Century' Pipe. We were extremely gratified by the speed and economy with which the pipe was laid."

KEASBEY & MATTISON
COMPANY, AMBLER, PENNSYLVANIA



The New Austin-Western 5- to 10½-Ton Tandem Roller

Tandem Rollers for Sheet Pavements

A new line of tandem rollers, built for general rolling use and precision work and including a number of improvements and refinements in design, has been announced by the Austin-Western Road Machinery Co., Aurora, Ill. The weights of the front and rear rolls can be increased by adding water to meet roller requirements ranging from 133 to 301 pounds per linear inch.

Among the operating advantages are: better visibility to see closer to curbs; more convenient controls, with the reversing clutch lever mounted on the steering column for easier and less tiring clutch engagement; effortless hydraulic steer; a lower center of gravity to prevent sway; less frame over-hang for rolling closer to curbs; more ground clearance under side plates to clear higher curbs; more stability because the box-shape construction resists twisting strains; balance of engine and final-drive parts to provide uniform weight distribution across the entire rear roll and good accessibility for reaching or servicing moving parts, hydraulic pump, strainer, etc.

The mechanical features include: all welded, two-piece front and rear roll, which are mounted on anti-friction bearings; front fork with horizontal king-pin mounted on widely spaced bearings and large diameter, vertical king-post mounted in Timken bearings for maximum stability and smooth steerability; gasoline or diesel power; two-speed forward and two-speed reverse-type transmission; a master clutch between the engine and transmission, controlled by foot pedal; and two double-disc reversing clutches.

Concrete Repairs Made by Contracting Firm

Where the original concrete has not been properly designed and consequently has failed through weathering, a serious condition is created in the exposure of the reinforcing steel and its loss of strength by rusting. Maintenance, Inc., Wooster, Ohio, an organization established especially for the care of "diseased concrete," will remove the bad concrete on dams, water-works and sewage-treatment plant structures and buildings, replace with new concrete, reinforced with steel when needed, and then coat the material with Jennite to prevent a recurrence of the trouble.

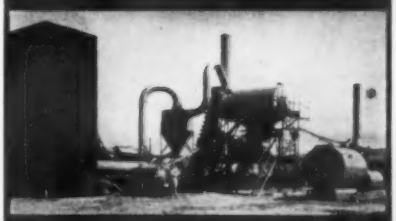
Jennite is the product of thirty years of continuous research to develop a substance which will make concrete water-, oil-, and acid-resistant. It is made only in black and, once cured, may be given a coat of oil paint in any desired color, and the base material will not bleed through. Jennite is applied cold just as it comes from the package, and is not a building material but a protector and preserver of concrete. It contains coal-tar, pitch and water, and is an irreversible colloid consisting of a heavy closed ring hydrocarbon with water as the continuous phase. It has a high specific gravity, fusion point, tensile strength, toughness, and resiliency, a low susceptibility factor, low percentage of non-mineral matter, and an absence of saturates and saponifiable constituents.

Jennite is manufactured exclusively by The Jennison-Wright Corporation, of Toledo, Ohio, for Maintenance, Inc., Wooster, Ohio, for its use and application to concrete.

A. P. Smith Mfg. Co. Elects New Officers

At the recent annual meeting of the A. P. Smith Mfg. Co., East Orange, N. J., D. F. O'Brien was elected Chairman of the Board, Hubert F. O'Brien, President, and Thomas L. Halpin was appointed Assistant Secretary.

YOU CAN FIND A PROFIT IN SMALL JOBS WITH THE RIGHT KIND of EQUIPMENT



And MADSEN has a small asphalt plant to meet your requirements.

Two plants in small capacity sizes: a 500-lb. batch size, and a 1,000-lb. batch size; complete with elevator, dryer, 4-size screening, accurate weighing through multiple beam scales, asphalt injection and a twin-shaft pug mill mixer.

A complete plant unit, portable, within width, height and weight requirements for moving on any highway. Madsen engineers, pioneers in portable and stationary asphalt plant equipment, have scored another hit in this truly outstanding equipment.

MADSEN IRON WORKS

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Saves time on construction or repairs

Homelite Portable Generators make light work out of night work. They furnish brilliant floodlighting—light that men need to work faster; to get repairs done quicker and at lower cost. And in addition to furnishing floodlighting, Homelites give you power to operate electric tools—needed power that otherwise wouldn't be available.

A valuable unit for Emergencies

Weighing only 83 pounds—complete with a built-in gasoline engine that runs the unit—an 1800-watt Homelite can be easily rushed anywhere—to the scene of an accident or drowning, to airports, hospitals or public buildings in darkness through power failure—any place where brilliant light is **needed in a hurry.**

Send for new bulletin

Shows how Homelites can help you in your community. Shows how they fit into defense plans.

Homelite CORPORATION

203 Riverdale Ave., Port Chester, N. Y.

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●

The Mathews operating thread is dry—sealed against both external and internal water.

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Frost-heaved ground cannot crack or lift a Mathews Hydrant. The ground grips only its loose protection case.

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Water can't stand in a properly set Mathews. Its one-piece drain valve is positive and automatic.

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Specify Mathews Hydrants. Write for prices, diagrams, or any facts you want.

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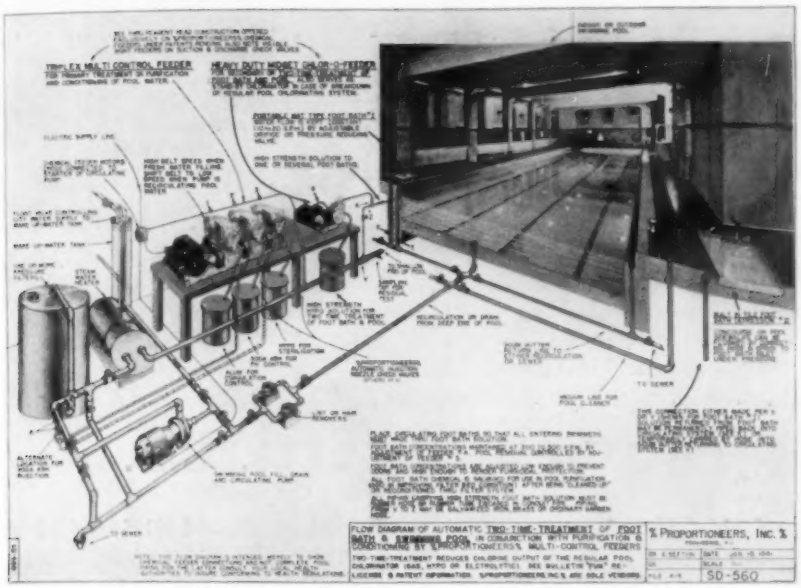

Two-Time Treatment for Bathers' Feet

A new step in the treatment of the feet of bathers going into a swimming pool, to do away with possible reinfection from athlete's foot, has been announced by Proportioneers, Inc., 9 Codding Street, Providence, R. I. The "two-time" treatment makes use of the standard footbath, but instead of containing a concentrated solution of disinfectant, moderately dosed pure circulating pool water flows continuously through the bath, giving a fresh high-strength solution moving all the time and treated in transit with from 200 to 500 ppm of chlorine dosed by any standard machine handling liquid chlorine or a hypochloride solution and delivered to the footbath by a Proportioneers pump.

All chlorine used for foot-bath control is reclaimed. It goes to improve the filter bed and is then reconditioned in passing through the filters before it is re-used to build up residual in the swim pool and effect reduction in the amount of chlorine which must be furnished to the pool by the regular chlorinator. See cut above.

Complete information on "two-time" treatment will be found in a pair of special bulletins which will be furnished promptly on request by those writing to Proportioneers and mentioning this item.

High-Capacity Filters for Municipal Sewage

The trickling filter has proved to be a rugged, reliable adjunct of sewage treatment for a great many years, and its modernized counterpart, the high-capacity trickling filter, is carrying on this tradition. The Halvorson-Smith process of sewage treatment, making use of the high-capacity trickling filter, is well known in the sewage-treatment field, for over fifty plants are now in operation.

The Chain Belt Co., Milwaukee, Wis., is now offering the Aero-Filter, using this process. Its new Bulletin No. 329 contains an unusually large number of diagrams, tables for filter loadings as well as data on settling tanks, pumps, and ventilation, which are very much worth while for municipal sewage-works officials, engineers and operators, as well as for consulting engineers.

What will ARREST RUST in this Water Tank?

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Q. *What is* RUSTA-RESTOR?

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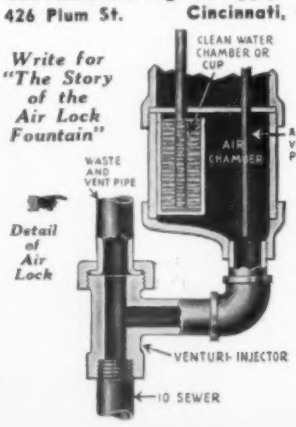

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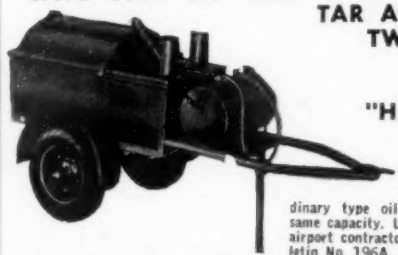

The "HEET-MASTER" will produce as much "hot stuff" as two ordinary type oil-burning kettles of the same capacity. Used by leading road and airport contractors. Send for FREE Bulletin No. 196A. For Cut-Back and Emulsion Sprayers, Bulletin No. 190A. Oil-burning Lead and Pipe Compound Melting Furnaces, Bulletin No. 176A. Portable Oil Burner & Torch Outfits, Bulletin 174A. Asphalt Paving Tools & Accessories, Bulletin 312A. Asphalt Paving Tool Heaters and Asphalt Pavement Heaters, Leaflet 171RT.

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The Grace 13½-Yard Garbage-Collection Body

New Garbage Body for Large Trucks

A 13½-cubic-yard closed-type garbage body with inside mechanism for packing and dumping the load has recently been developed by W. E. Grace Mfg. Co., Dallas, Texas. The body, as illustrated, is mounted on a cab-over-engine 158-inch wheelbase truck.

The body has large loading openings, a reported large carrying capacity for its weight, and protection of the material being loaded from being blown about by the wind. The loading and dumping mechanism is operated by a standard power take-off and an oil field winch. The load is packed toward the rear of the body, and dumping is accomplished by opening the rear doors and pushing the load out with the packer. Only one operating lever is required, and the mechanism is protected by an overload device to prevent damage to the packer mechanism and the power take-off.

New Processing for Galvanized Sheet Metal

Colorbond, a new product of The Newport Rolling Mill Co., Newport, Ky., is a galvanized sheet subjected to chemical and metallurgical processes that change the surface finish without weakening the protective spelter coating. This process, the manufacturers announce, furnishes a primary protective coat to safeguard the metal itself, and at the same time provides a base which results in complete adhesion of paint or other surface finish to the metal. Enamel, varnish, lacquer and other finishes may be used on this processing with complete satisfaction, it is stated, and tests have demonstrated its resistance to abrasion, heat, etc.

Leveque Resigns, to Join Phipps & Bird

Roland Leveque, Superintendent of Water Works, Fredericksburg, Va., has resigned, effective April 1, 1941, when he will join Phipps & Bird Co., of Richmond, Va.

Mr. Leveque became Superintendent of the new filtration plant when it was constructed in 1927, and has continued in that position ever since. He is at present Vice-President of the Virginia Section of the American Water Works Association.

Macatee Has New Post in Asphalt Institute

The appointment of W. R. Macatee to the newly created post of Assistant Managing Director of The Asphalt Institute, 801 Second Avenue, New York, has been announced. Mr. Macatee has been serving as District Engineer of the Institute, with offices in the Transportation Building at Washington, D. C., where he has been engaged in coordinating the Institute's work with national defense measures, particularly in the airport construction program. Mr. Macatee will continue in charge of the Washington office of the Institute.

Equipment for Cleaning Sewers

A complete root cutter and sewer cleaner is described and illustrated in Catalog No. 40 issued by the Expanding Sewer Machine Co., Nappanee, Ind. Also illustrated and described in this catalog are sewer rods, sewer-rod accessories, steel cable, rod pushers and pullers, manhole braces, expansion buckets, revolving spear points, flexible sewer rods, and virtually every piece of equipment used in the efficient cleaning of sewers. The last pages of the booklet furnish a list of cities now using this equipment and quote letters from municipal officials on the results obtained. Copies are available on request to the Expanding Sewer Machine Co.

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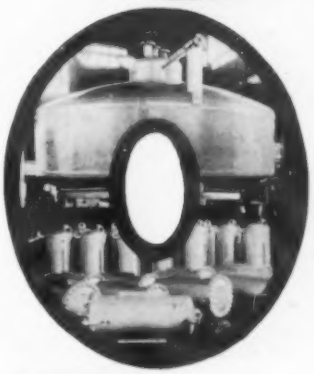

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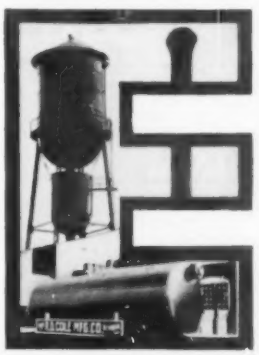

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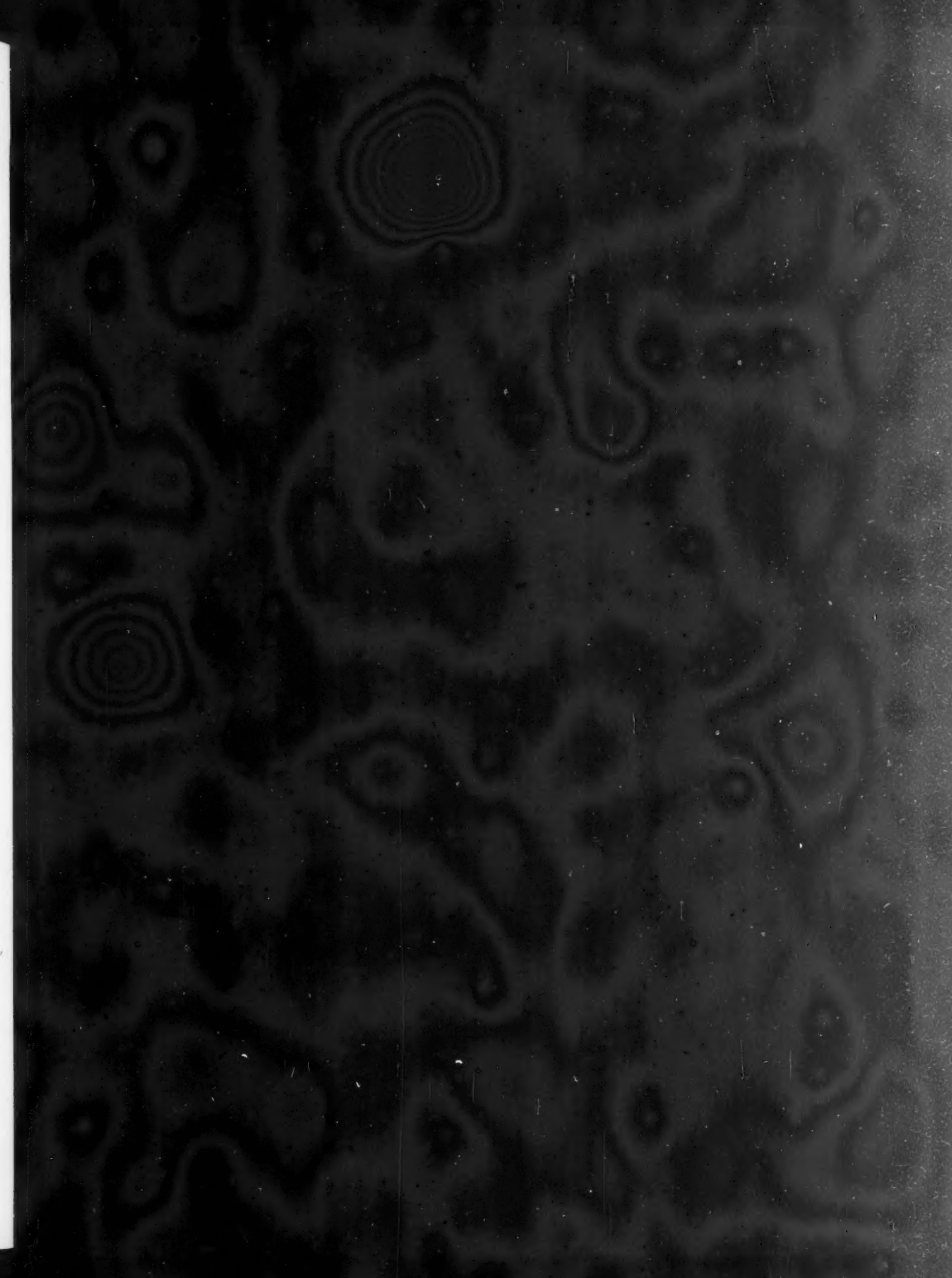

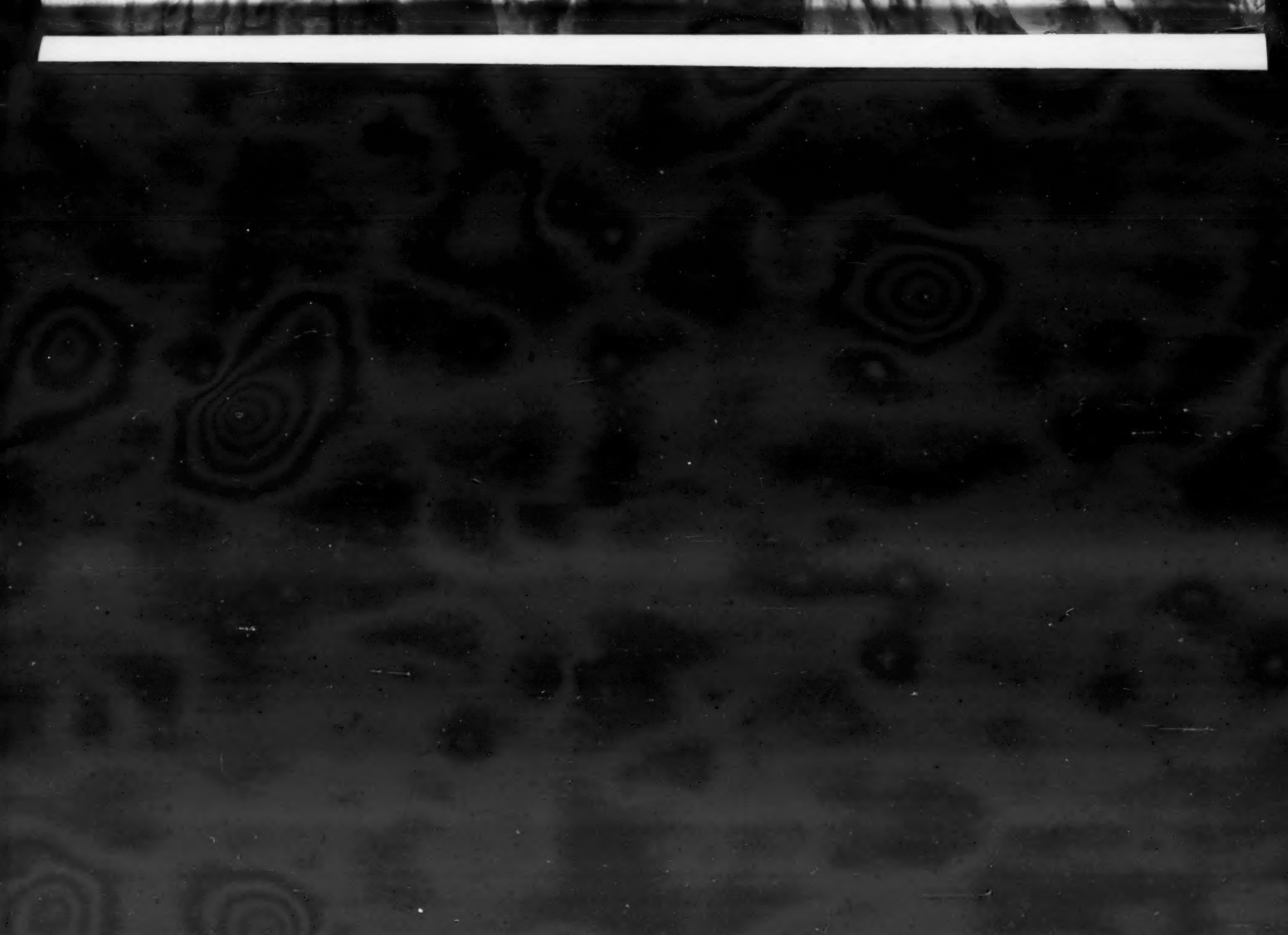

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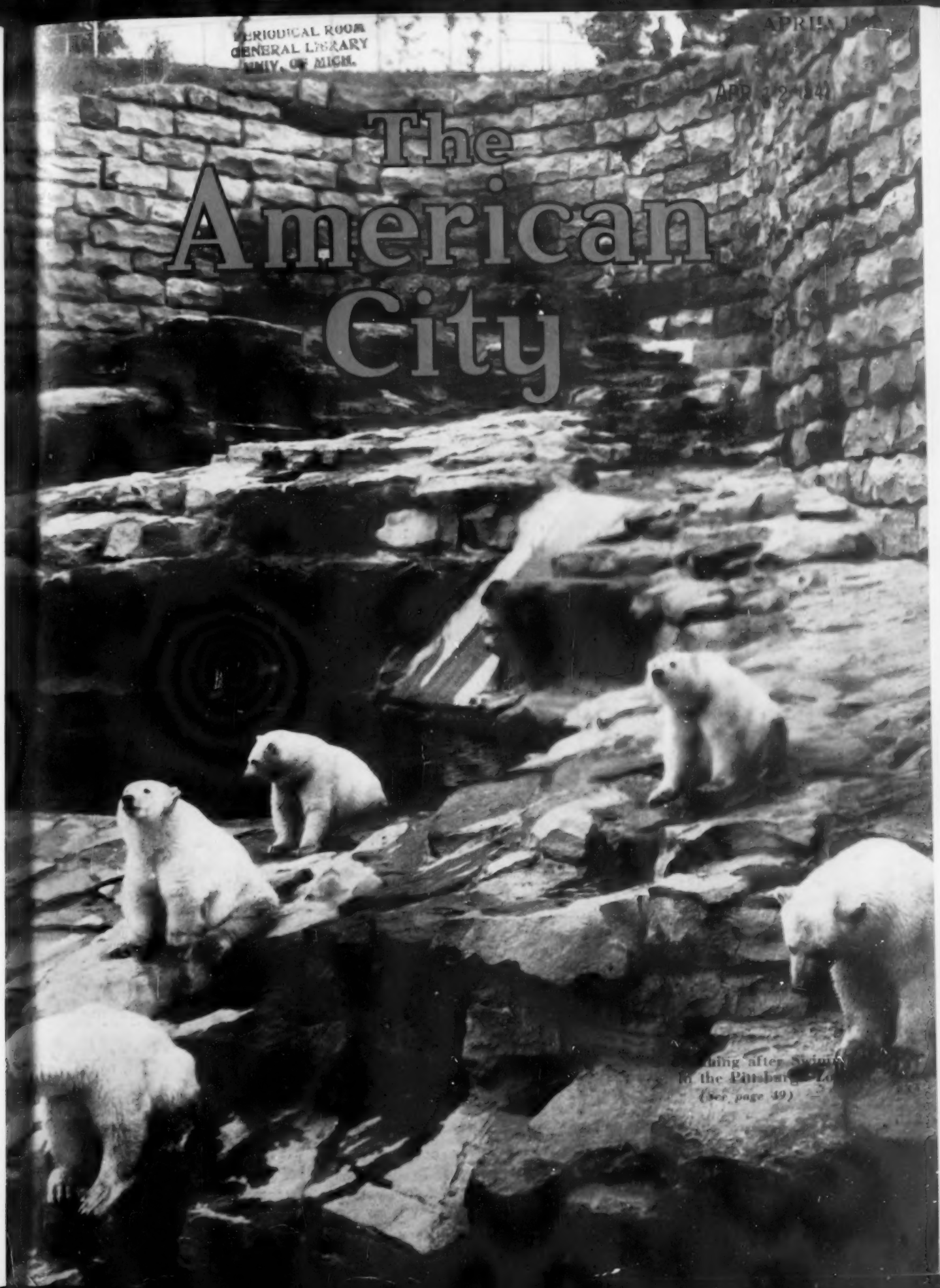

...thing after Swimm...
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(See page 49)